



## Flexi®

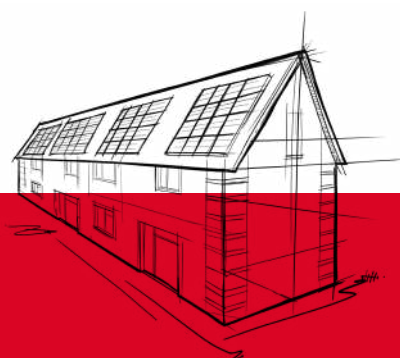
### A friction fit insulation slab for framed constructions

ROCKWOOL Flexi® has been designed as a multi-use, dual purpose acoustic and thermal stone wool insulation with a unique flexible edge along one side.

The ROCKWOOL Flexi® slab is manufactured with a flexible edge ensuring a close fit is maintained between the insulation and the supporting framework allowing for a straightforward installation.

Flexi is suitable for use between frames in walls, partitions, floors and roofs, without the need for cutting, providing a straightforward installation with minimum fuss.

- Designed to provide multiple thermal and acoustic solutions
- Flexi Edge® ensures tight friction fit
- Will not slump, even if studs shrink
- Range of thicknesses and widths to suit multiple applications
- Non-combustible - Euroclass A1 classification as defined in EN 13501-1



**ROCKWOOL Flexi is a unique, flexible edged insulation product, specifically developed for a fast and easy friction fit.**

ROCKWOOL stone wool insulation is sound absorbing by nature, and can be used to significantly reduce the noise transmission into a building and between the indoor spaces.



## APPLICATIONS

ROCKWOOL Flexi is suitable for use in a wide range of applications, including acoustic and thermal insulation for partitions, separating walls and floors, as well as thermal insulation for suspended floors, walls, and roofs.

## PERFORMANCE

### Thermal performance

ROCKWOOL Flexi achieves a thermal conductivity  $\lambda$  value of 0.038 W/mK, and 0.035 W/mK at 140mm thicknesses and above in accordance with BS EN 13162:2012 + A1:2015.

### Fire performance

ROCKWOOL Flexi is non-combustible achieving a reaction to fire classification of A1, as defined in EN13501-1.

### Acoustic performance

The non-directional fibre orientation and density of stone wool means that sound waves are trapped, and vibrations dampened which can significantly reduce outside sources of noise when used in an external wall.

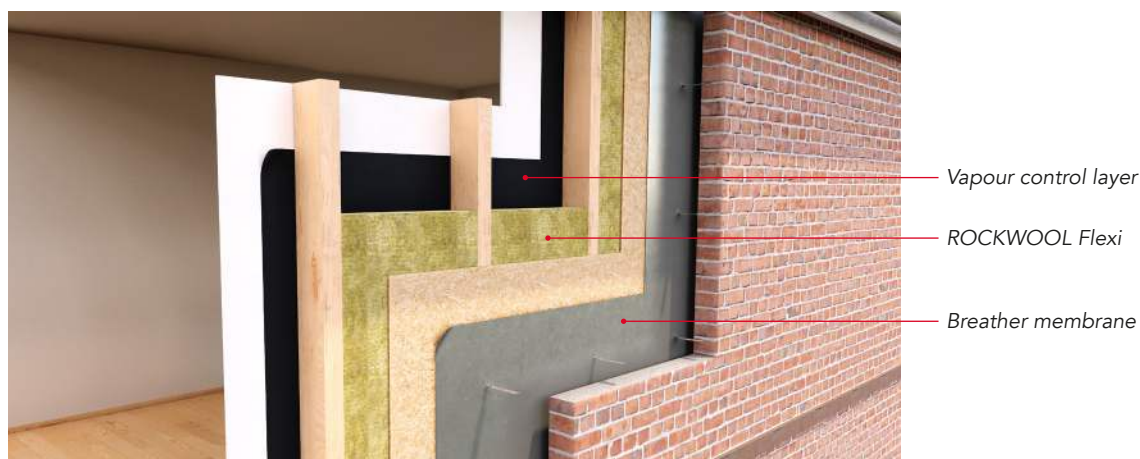
ROCKWOOL insulation retains its shape and thickness for the lifetime of the building, which means it performs acoustically decade after decade.

## TYPICAL U-VALUES

### Application performance

#### Construction 1: Cold frame with no service void

Timber frame cavity wall, standard construction, insulated with Flexi between studs.

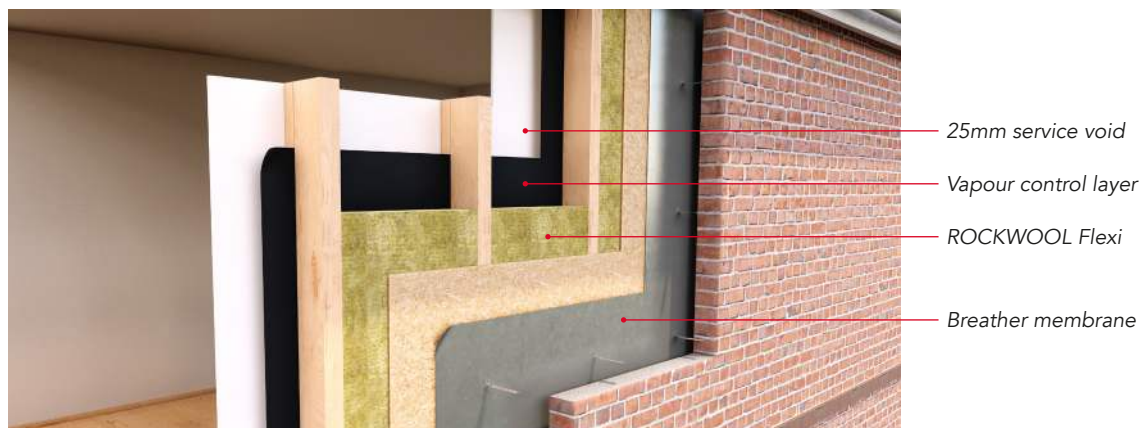


Timber frame construction 1 - with service void			Breather membrane		
U-value (W/m <sup>2</sup> K)	Flexi (mm)	Stud depth (mm)	Standard	Tyvek Reflex	Protect TF200 Thermo
0.28	140	140	•	-	-
0.25	140	140	-	•	-
0.24	140	184	-	-	•
0.23	180	184	•	-	-
0.21	180	184	-	•	-
0.20	180	184	-	-	•



## Construction 2: Cold frame with service void

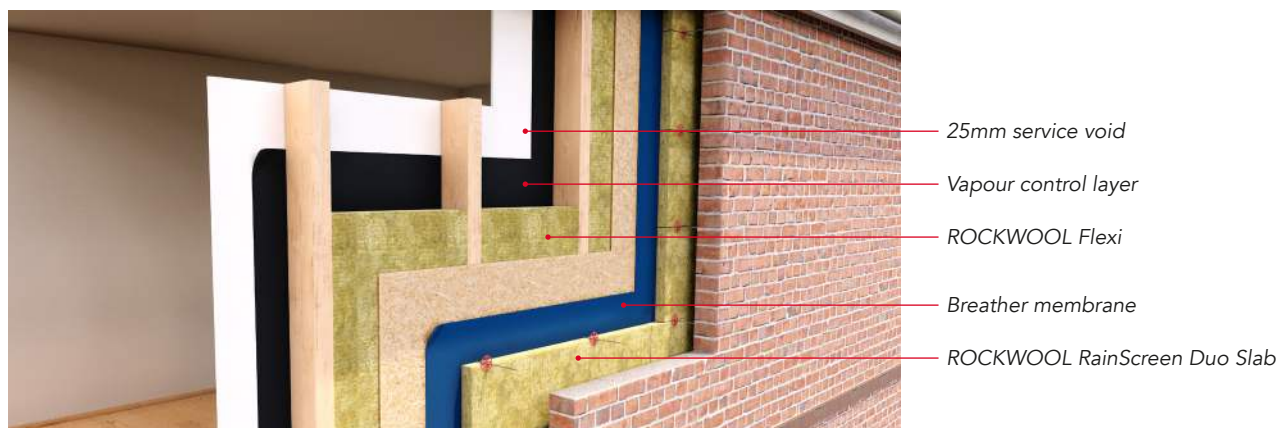
Timber frame cavity wall with separate 25mm battened service void, insulated with Flexi between studs.



Timber frame construction 2 - with service void			Breather membrane			Service void VCL options and types		
U-value (W/m <sup>2</sup> K)	Flexi (mm)	Stud depth (mm)	Standard	Tyvek Reflex	Protect TF200 Thermo	Standard	DuPont Airguarsd	Protect VC Foil Ultra
0.27	140	140	•	-	-	•	-	-
0.21	140	140	-	•	-	-	•	-
0.20	140	184	-	-	•	-	-	•
0.22	180	184	•	-	-	•	-	-
0.18	180	184	-	•	-	-	•	-
0.17	180	184	-	-	•	-	-	•

## Construction 3: Warm/Hybrid frame (with no service void)

Warm/hybrid timber frame cavity wall with ROCKWOOL Flexi insulation between studs and 50mm ROCKWOOL RainScreen Duo Slab, fixed to face of OSB over breather membrane.



Construction 3 warm/hybrid timber frame - No service void (Standard BM & VCL)			
U-value (W/m <sup>2</sup> K)	RainScreen Duo Slab over OSB (mm)	Flexi in frame (mm)	Stud depth (mm)
0.25	50	90	89
0.19	50	140	140

Note: The U-values shown in table 3 above can be further enhanced upon by the inclusion of a service void - see construction 4 table on page 5.

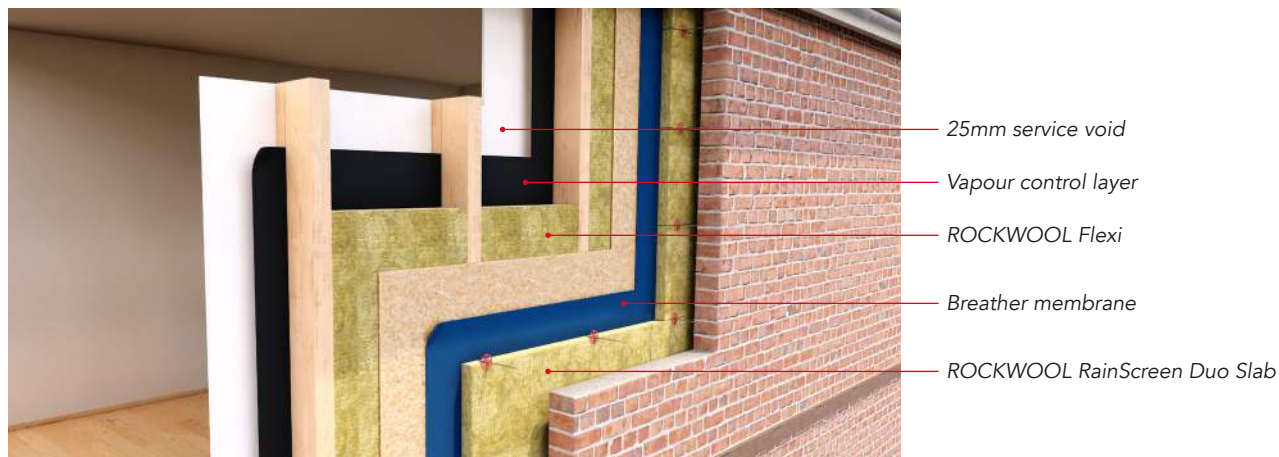
Pencoed, Bridgend CF35 6NY

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## Construction 4: Timber frame warm/hybrid frame construction (with service void)

As construction 3 above, but with additional 25mm batted service void with Flexi between studs:



Construction 4 warm/hybrid timber frame - with service void				Service void - VCL options and types		
U-value (W/m²K)	RainScreen Duo Slab over OSB (mm)	Flexi (mm)	Stud depth (mm)	Standard	Tyvek AirGuard	Protect VC Foil Ultra
0.24	50	90	89	•	-	-
0.22	50	90	89	-	•	-
0.21	50	90	89	-	-	•
0.19	50	140	140	•	-	-
0.17	50	140	140	-	•	-
0.17	50	140	140	-	-	•
0.16	50	180	184	•	-	-
0.15	50	180	184	-	•	-
0.15	50	180	184	-	-	•

The additional thermal benefits offered by using high performance (HP) breather membranes (BM) and vapour control layers (VCL) over standard membranes are shown below.

Effective thermal resistance (R-values) comparisons used for external cavities are as follows:

- Standard BM = 0.18m²K/W: or
- Tyvek Reflex BM = 0.540m²K/W
- Protect TF200 Thermo = 0.77m²K/W

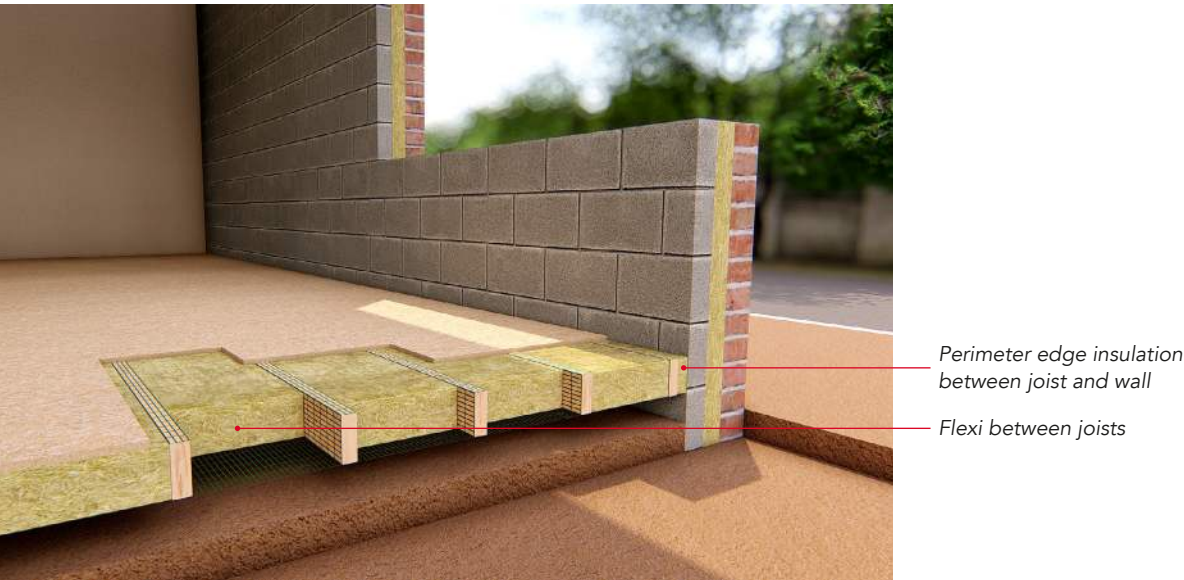
Effective thermal resistance (R-values) comparisons used for service void cavities are as follows:

- Standard VCL = 0.18m²K/W: or
- DuPont AirGuard VCL = 0.680m²K/W
- Protect VC Foil = 0.78m²K/W

THERMAL APPLICATIONS - FLOORS

ROCKWOOL Flexi is installed between the floor joists, supported by polypropylene netting or a breather membrane. The insulation should be fitted as close as is practical to the underside of floor deck to avoid any air gaps.

The P/A (perimeter area) ratio is determined by dividing the total of the exposed perimeter length of the floor by the area of the floor.



U-value W/m²K P/A ratio	Flexi			
	0.25 Thickness (mm)	0.22 Thickness (mm)	0.20 Thickness (mm)	0.18 Thickness (mm)
0.4	120	140	150	180
0.5	120	140	160	200
0.6	120	140	180	200
0.8 - 1.0	140	140	180	200

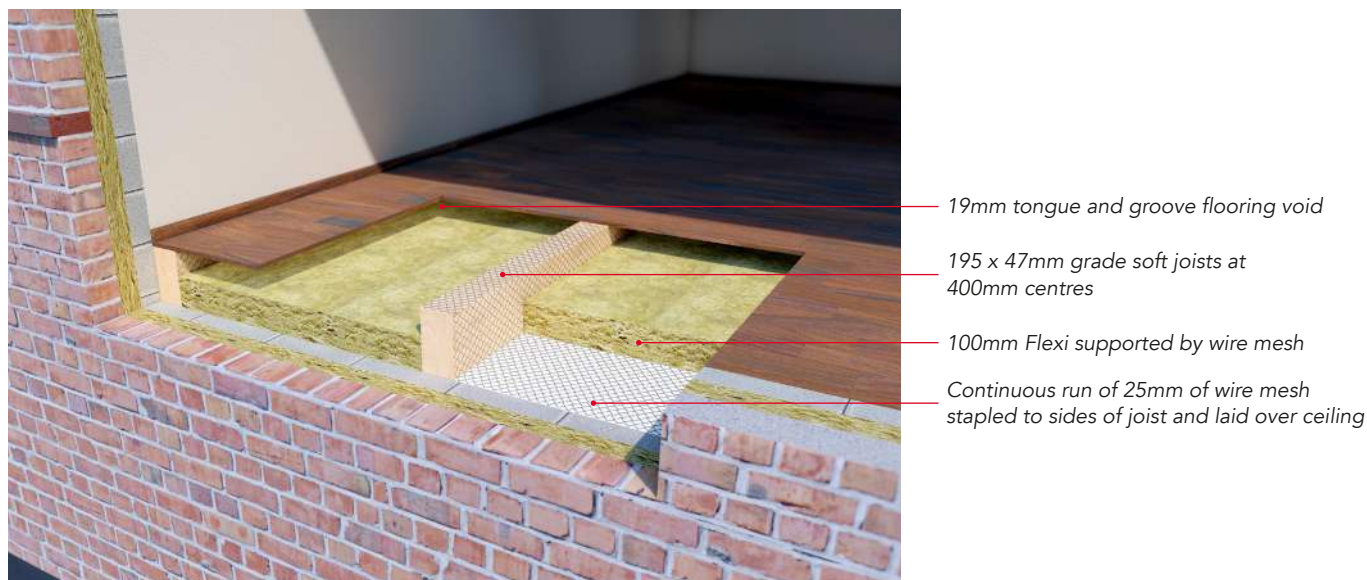
# Flexi

## Fire protection: Upgrading existing timber floor to achieve one hour fire resistance

1 hour fire resistant floor based on fire test to BS476: Part 21 using ROCKWOOL Flexi.

Remove existing floor boards and install a continuous run of 25mm  $\varnothing$  chicken wire mesh across the whole floor. Form the mesh so that it follows the profile of the joists and the top face of the ceiling lining.

100mm ROCKWOOL Flexi is to fit tightly between the joists and supported by the mesh. Lay new floor of either 19mm flooring grade tongue and groove chipboard or square edged boards with a layer of 3mm hardboard above or below the boards.



## Acoustic applications - walls

ROCKWOOL Flexi works in two distinct ways to reduce noise, either by impeding the transmission of sound through the structure, or by absorbing sound at the surface.

Acoustic and thermal insulation for timber frame party walls to help reduce Party wall bypass

Heat loss via "Separating party cavity walls"

Building Regulations Approved Document of England and Wales' and Section 6 of Scotland's Building standards have recognised that where party cavity-walls between connected buildings are untreated, considerable heat can escape through them.

Minimising heat loss from party walls

ROCKWOOL has a range of solutions to help eliminate the heat loss from timber frame party walls. Extensive site trials have demonstrated that the U-value for a party wall can potentially be reduced to zero if the cavity of a timber frame party wall is fully filled with ROCKWOOL Flexi insulation and effective edge sealing (such as ROCKWOOL PWCB) is applied around the perimeter edges of the party wall cavity (further details about ROCKWOOL PWCB can be found in the ROCKWOOL FirePro® Cavity Barrier data sheet).

## Robust details - Separating timber framed walls

### Robust details reference – E-WT-1

- Without sheathing board
- Twin timber frames (for use in conjunction with timber frame dwellings and apartments)



*Twin timber frame with 50mm gap between*

*Flexi between the studs*

*2 layers of gypsum based board*

### The following are required:

- Wall width: a minimum of 240mm between inner faces of wall linings and a 50mm gap between the two frames.
- Wall lining: 2 or more layers of gypsum-based board (total nominal mass per unit area 22kg/m<sup>2</sup>) both sides.
- ROCKWOOL Flexi: a minimum of 60mm in both wall frames.

### Thermal Regulations: Minimising heat loss via party walls

To assist in achieving a zero U-value for thermal applications we would recommend the following:

1. Fully fill the depth of the studs in both wall frames with 90mm ROCKWOOL Flexi (this assumes the depth of the stud to be 89mm).
2. Fully fill the cavity space between the wall frames with 60mm Flexi batt (this assumes the cavity width to be 60mm).



## Robust details reference – E-WT-2 Separating wall - timber frame

- With sheathing board
- Twin timber frames (for use in conjunction with timber frame dwellings and apartments)



### The following are required:

- Wall width: a minimum of 240mm between inner faces of wall linings and a 50mm gap between studs.
- Wall lining: 2 or more layers of gypsum-based board (total nominal mass per unit area 22kg/m<sup>2</sup>) both sides.
- ROCKWOOL Flexi: a minimum of 60mm in both wall frames.

### Thermal Regulations: Minimising heat loss via party walls

To assist in achieving a zero U-value for thermal applications we would recommend the following:

1. Use a minimum thickness of 60mm Flexi between studs in each frame.
2. Fully fill the cavity space between the wall panels with \*60mm Flexi batt (\*Note for this construction type, the thickness of insulation used to fully fill the cavity should be 10mm wider than the as built cavity width. eg. use 60mm Flexi in 50mm Cavities or 70mm Flexi in a 60mm Cavity.

## Robust details reference – E-WS-1 Separating wall - steel frame

Twin metal frames for use in lightweight steel frame houses and flats/apartments (for use in conjunction with light steel framed dwellings and apartments).



### The following are required:

- Wall width: a minimum of 200mm between inner faces of wall linings.
- Wall lining: 2 or more layers of gypsum-based board (total nominal mass per unit area 22kg/m<sup>2</sup>) both sides.
- ROCKWOOL Flexi: a minimum of 50mm fully filling the cavity between frames (this thickness will vary pending as built cavity width).

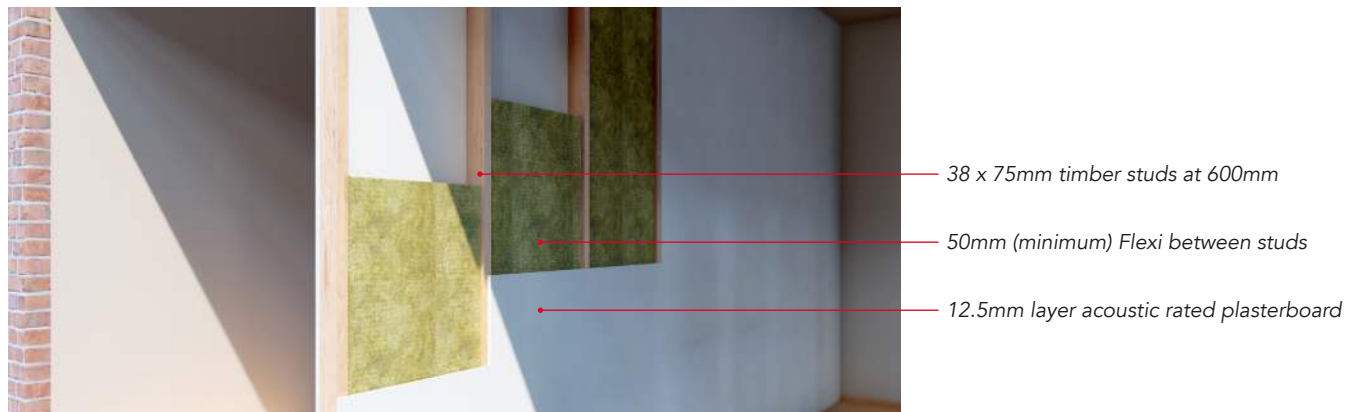
Please note: The steel frame profiles shown are indicative only. Other profiles are acceptable. This robust detail is only suitable for use in lightweight steel frame houses and flats/apartments.

## Acoustic applications – partitions

ROCKWOOL Flexi will provide both acoustic and fire benefits when used in partitions.

Lightweight domestic timber stud partition: meeting Approved Document E2 (domestic internal partitions).

### Solution 1 - Timber frame



The following are required:

- Studs: 38x75 timber studs at 600mm centres Facings: 1 layer 12.5mm acoustic rated plasterboard (11 kg/m<sup>2</sup>) each side
- Insulation: a minimum of 50mm of ROCKWOOL Flexi

Results	
Weighted sound reduction	Rw 40dB
Fire resistance	30 minutes
Maximum height	3 metres
Nominal wall thickness	100mm

### Solution 2 - Metal frame - Lightweight domestic metal stud

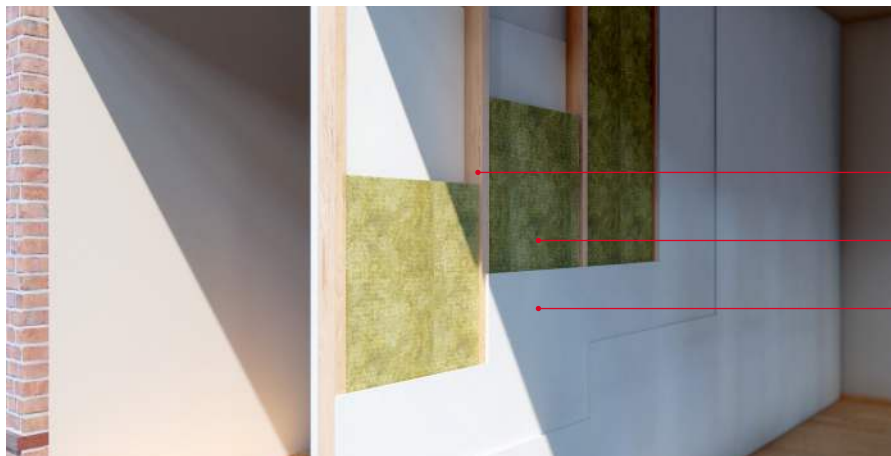


The following are required:

- Studs: 50mm metal studs at 600mm centres
- Facings: 1 layer of 12.5mm standard plasterboard (8kg/m<sup>2</sup>) each side
- Insulation: a minimum of 50mm of ROCKWOOL Flexi

Results	
Weighted sound reduction	Rw 41dB
Fire resistance	30 minutes
Maximum height	2.5 metres
Nominal wall thickness	75mm

## Enhanced performance (timber frame) - Typical office partition adjacent to factory



38 x 75mm timber studs at 600mm

50mm (minimum) Flexi between studs

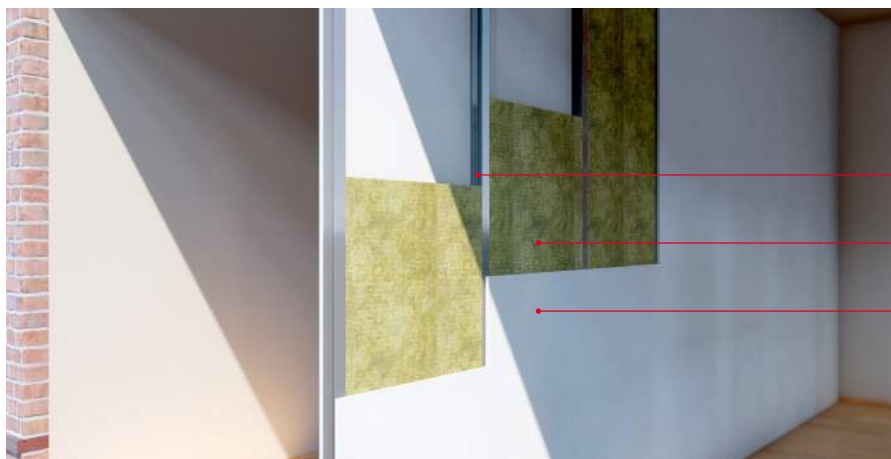
2 layers 12.5mm plasterboard

### The following are required:

- Studs: 38x75 timber studs at 600mm centres
- Facings: 2 layers of 12.5 mm standard plasterboard (16kg/m<sup>2</sup>) each side
- Insulation: a minimum of 50mm of ROCKWOOL Flexi

Results	
Weighted sound reduction	Rw 46dB
Fire resistance	60 minutes
Maximum height	3 metres
Nominal wall thickness	125mm

## Enhanced performance (metal frame) - Schools, offices and public buildings: NBS Plus Clause K10:115, K10:125



70mm metal studs at 600mm centres

70mm Flexi between studs

2 layers 15mm acoustic plasterboard

### The following are required:

- Studs: 70mm metal studs at 600mm centres
- Facings: 2 layers of 15.0mm acoustic rated plasterboard (26kg/m<sup>2</sup>) each side
- Insulation: a minimum of 70mm of ROCKWOOL Flexi

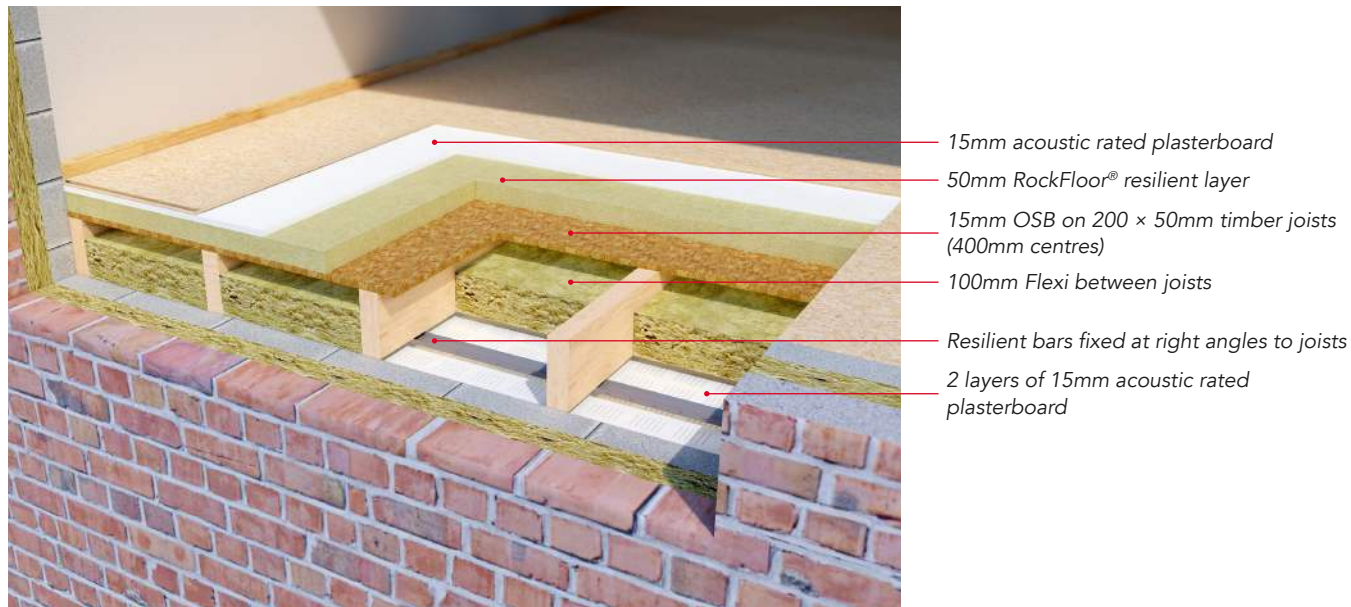
Results	
Weighted sound reduction	Rw 50dB
Fire resistance	94 minutes
Maximum height	4.6 metres
Nominal wall thickness	130mm

## Alternative ROCKWOOL systems for Approved Document E compliance

### New build separating timber floor

The following ROCKWOOL solutions have the potential to meet the requirements set out in Part E Section 3 and provide a minimum fire resistance of 60 minutes, based on fire test to BS476: Part 21 using ROCKWOOL Flexi.

- Airborne:  $R_w$  54dB ( $R_w$  66 - 12 Ctr)
- Impact:  $L_{nw}$  54dB
- Test Report ref. L03 272 & 273



### The following are required:

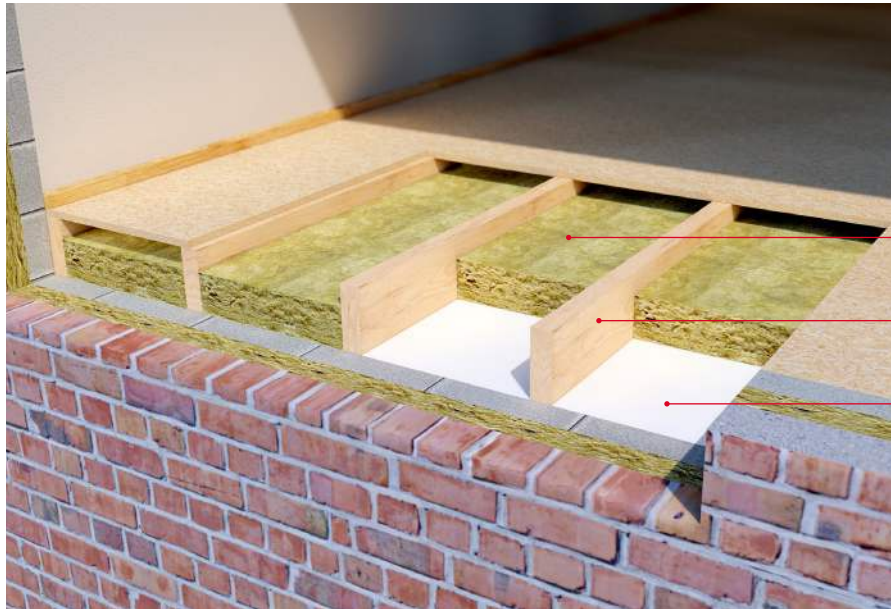
- 18mm of tongue and groove flooring grade chipboard
- 15mm acoustic rated plasterboard with a minimum mass 12.5 kg/m<sup>2</sup> mass per unit area
- 50mm of ROCKWOOL RockFloor resilient layer
- 15mm of OSB on 200 × 50mm timber joists at 400mm centres
- 100mm of ROCKWOOL Flexi between joists
- Resilient bars fixed at right angles to joists at 400mm centres
- Ceiling finish: 2 layers of 15mm acoustic rated plasterboard (26kg/m<sup>2</sup>)
- Pre-completion site testing required on site



## Internal floors

ROCKWOOL system for compliance with Approved Document E Section 5 - internal floors, within the same dwellings Timber joist internal floor (domestic internal floor).

To meet part e2: Rw 40dB Test Report ref. I03 264 & 265.



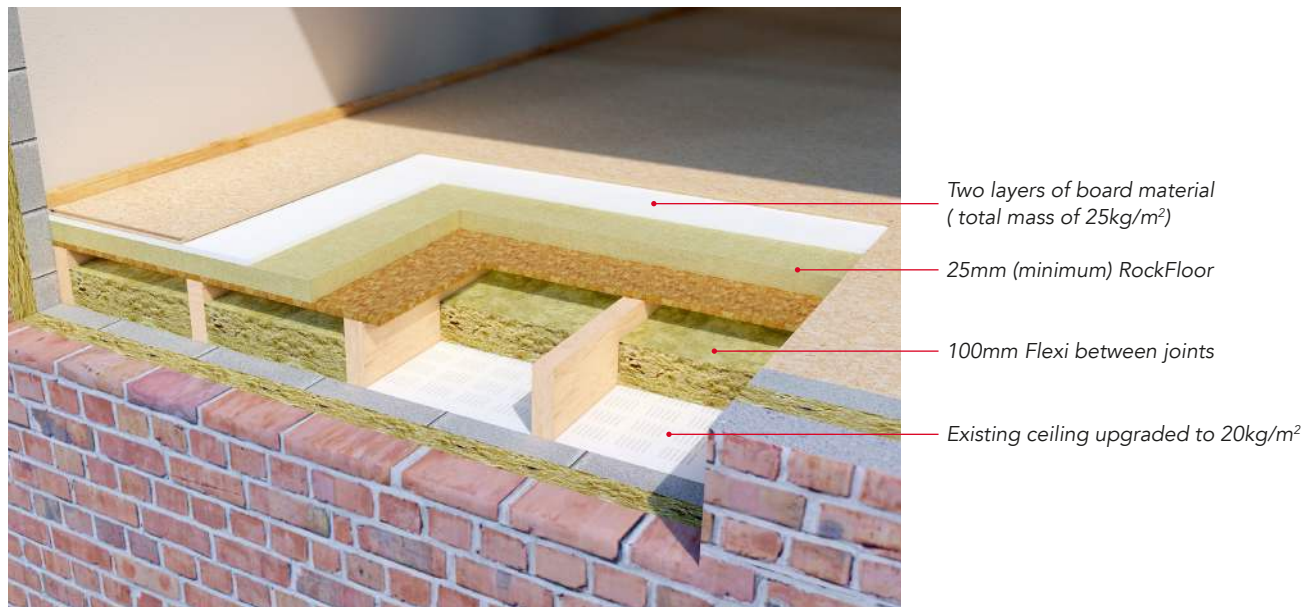
The following are required:

- 18mm of tongue and groove flooring grade chipboard with a mass per unit area of 12.4 kg/m<sup>2</sup>
- Timber joists at 400mm centres
- 100mm of ROCKWOOL Flexi between joists
- A single layer of standard 12.5mm plasterboard ceiling with a mass per unit area of 8kg/m<sup>2</sup>

## Separating floors

Approved Document E Section 4 (material change of use).

Approved Document E Construction guidance specifications for material change of use separating timber floor treatment 2: Platform floor with absorbent material: NBS Plus Clause K11:215, 225, 235 & 245.



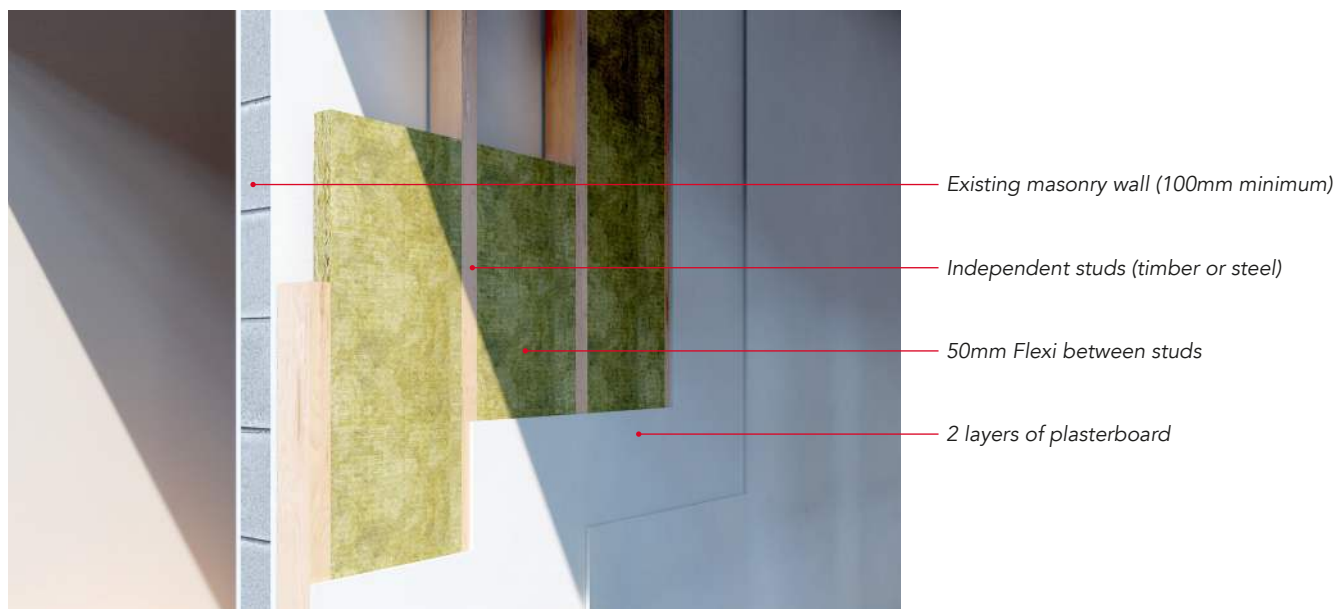
The following are required:

- A minimum of 2 layers of board material to provide minimum a total mass of 25kg/m<sup>2</sup>, spot bonded together with joints staggered (eg 18mm of tongue and groove flooring grade chipboard and 19mm of plasterboard plank)
- 25mm (min) ROCKWOOL RockFloor resilient layer
- The floating layer to be loose laid over the RockFloor
- Existing floor deck on existing timber floor joists
- 100mm of ROCKWOOL Flexi
- Existing ceiling should be upgraded to 20kg/m<sup>2</sup>. If the existing ceiling is of lath & plaster it should be retained, providing it satisfies Part B - Fire Safety (if in doubt then underdraw the ceiling with an additional layer of 12.5mm fire rated plasterboard and screw into the joists)
- Pre-completion site testing

## Acoustic applications – separating walls

Approved Document E Section 4 (material change of use)

Approved Document E construction guidance specifications for wall treatment 1: existing solid masonry wall with independent panel(s).



### The following are required:

- A minimum of 2 layers of board material to provide minimum a total mass of 25kg/m<sup>2</sup>, spot bonded together with joints A minimum of 100mm of existing solid masonry wall, plastered on both faces
- Independent timber or steel studs. A minimum 10mm gap to be maintained between the frame and the existing wall
- 50mm of ROCKWOOL Flexi between studs
- 2 layers of plasterboard at a minimum of 20kg/m<sup>2</sup> (approximately equal to 2×15 mm layers)
- Avoid flanking transmission: seal perimeter edges of new plasterboard with tape or ROCKWOOL Intumescent Sealant
- If the existing masonry wall is not plastered or is less than 100mm thick then independent panels should be applied to both sides
- Pre-completion site testing

## PRODUCT INFORMATION

Width (mm)	Length (mm)	Thickness (mm)
400	1200	50 - 200
600	1200	50 - 200

## ADDITIONAL INFORMATION

### Durability

ROCKWOOL stone wool is durable by nature. Sample testing from existing buildings shows that ROCKWOOL stone wool retains its performance for at least 65 years\* without being affected by compression or temperature and humidity changes.

*\*FIW, Durability Project Mineral Wool (2016).*

### Condensation

ROCKWOOL stone wool insulation allows the construction to breathe, reducing the risk of condensation, which can lead to rot, mould and humidity damage.

## STANDARDS AND APPROVALS

Certificate
ROCKWOOL RW Slabs satisfy the requirements of BS EN 13162 "Thermal insulation products for buildings. Factory made mineral wool (MW) products".
Manufactured under ISO 14001 Environmental Management Systems, and ISO 9001 Quality Management Systems.



## INSTALLATION

The product must be installed in accordance with the current ROCKWOOL guidelines. For further information please visit [www.rockwool.com/uk](http://www.rockwool.com/uk) or contact our Technical Solutions Team on 01656 868490.

## SPECIFICATION CLAUSES

The following NBS clauses include Flexi:

p10:140, p10:210, p10:230, p10:240, p10:250, k10:115, k10:125, k10:145, k10:155, k10:165, k10:185, k10:420, k11:215, k11:225, k11:235, k11:245, k20:150, k20:160, m10:290, m13:260.



### LEGAL NOTICES

#### General safety requirements – Building Safety Act 2022

ROCKWOOL Limited is committed to supporting specifiers, resellers and users of ROCKWOOL products for the full life cycle of the product to comply with the obligations and responsibilities set out in the Building Safety Act 2022. With regard to the general safety requirements of the Act, ROCKWOOL Limited cannot control or foresee every situation where its products might be used. We therefore strongly advise that specifiers, resellers and users contact us where use of ROCKWOOL products is contemplated in applications different from those explicitly described in the latest, relevant ROCKWOOL product datasheets; especially in applications that can be reasonably foreseen as critical to safety.

ROCKWOOL Limited reserves the right to amend the specification of its products without notice. Changes to the ROCKWOOL manufacturing process, or to pertinent regulations, may be reflected in changes to tested and certified product performance. Whilst ROCKWOOL Limited endeavours to keep its publications up to date, readers will appreciate that between publications there may be pertinent changes in the law or other developments affecting the accuracy of the information contained in our publications.

ROCKWOOL Limited does not accept responsibility for the consequences of using (including testing or certifying) its products in applications different from those explicitly described in the relevant ROCKWOOL product datasheets. Expert advice should be sought, and ROCKWOOL Limited should be contacted, where such different use is contemplated, or where the extent of any use described by ROCKWOOL Limited is in doubt.

#### The ROCKWOOL Trademark

ROCKWOOL® - our trademark

The ROCKWOOL trademark was initially registered in Denmark as a logo mark back in 1936. In 1937, it was accompanied with a word mark registration; a registration which is now extended to more than 60 countries around the world.

The ROCKWOOL trademark is one of the most important assets of the ROCKWOOL Group, and is therefore well-protected and defended by ROCKWOOL throughout the world.

If you require permission to use the ROCKWOOL logo for your business, advertising or promotion, you must apply for a Trade Mark Usage Agreement.

To apply, write to:  
[marketcom@rockwool.com](mailto:marketcom@rockwool.com)

#### Trademarks

Registered trademarks of the ROCKWOOL Group include but are not limited to:

ROCKWOOL®, RockClose®, RainScreen Duo Slab®, HardRock®, RockFloor®, Flexi®, RockFall®, FirePro®, DuctRock®, BeamClad®, NyRock®

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To apply, write to:  
[marketcom@rockwool.com](mailto:marketcom@rockwool.com)

## ROCKWOOL stone wool - safe to install and live alongside

There are no hazardous classifications associated with stone wool insulation manufactured by ROCKWOOL-UK according to EU REACH and UK REACH regulations on health and the environment.

ROCKWOOL safe use instruction sheets and material safety data sheets (where applicable) can be downloaded [here](#).



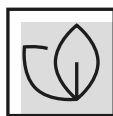
### Sustainability

ROCKWOOL products are used to enrich modern living, creating safer, healthier and more climate-resilient communities.

We transform abundant, natural volcanic rock into stone wool insulation products that are used to reduce energy demand, lower fuel bills and help address society's climate change challenges.

ROCKWOOL stone wool insulation is recyclable and can be transformed into new ROCKWOOL products. Please contact us for details of how we can work together to recycle waste ROCKWOOL stone wool material that may be generated during on-site installation.

Our annual sustainability reports, which set out progress against our sustainability goals, and further details of the positive impacts of using our products can be found on our website.



### Environment

ROCKWOOL takes a fact-based, auditable approach to documenting our progress in maximising our products' positive impact and minimising the effect our operations have on the environment, backed by third-party references and methodologies. Further details can be found online in our annual sustainability report.

Our high-tech production process uses filters, pre-heaters, after-burners and other cleaning and collection systems that help to reduce the effects of our manufacturing operations on the environment.

ROCKWOOL stone wool insulation does not contain (and has never contained) gases that have ozone depletion potential (ODP) or global warming potential (GWP).

