

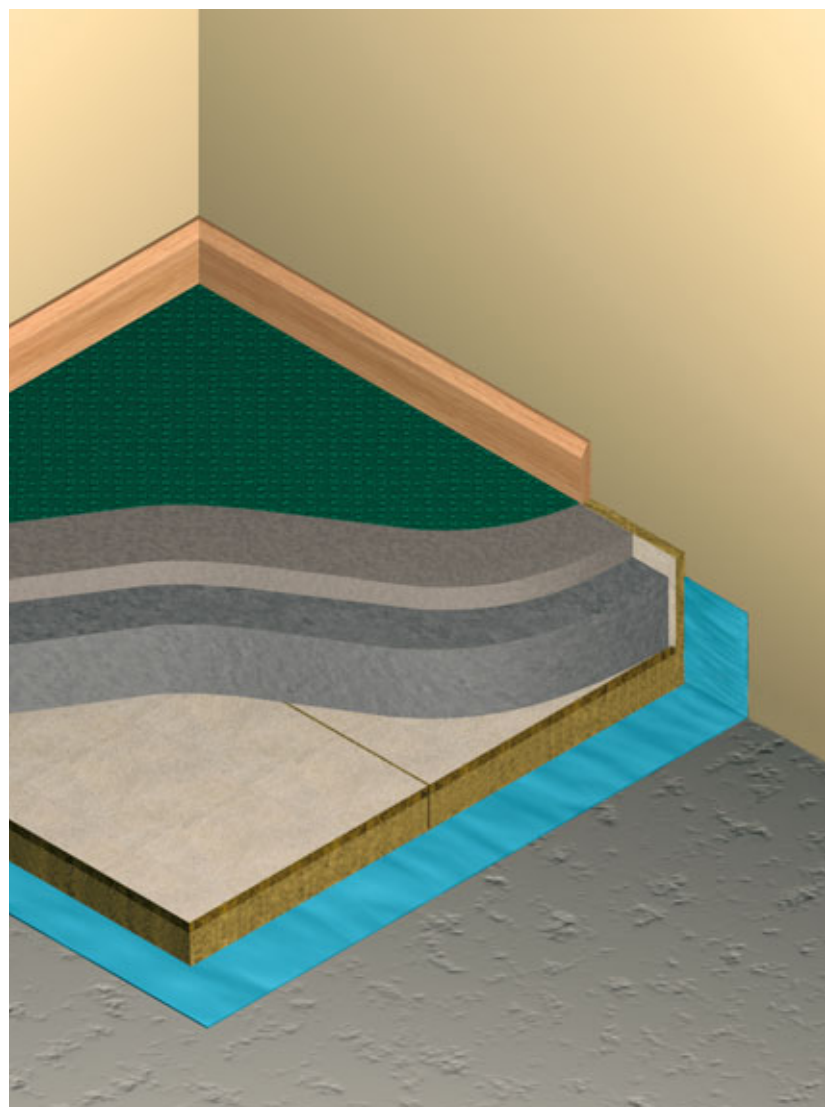
# ROCKWOOL®

Application type	Acoustic and thermal
Construction type	Floors

## Rockfloor

Thermal and Acoustic insulation for ground floors and separating floors

Rockwool Rockfloor is a tissue faced high compressive strength slab designed to meet both Part E (Acoustic) and new Part L (2006) thermal regulations. The Rockfloor range offers an unique economic dual density thermal insulation for ground floors and acoustic insulation for separating floors.



Rockfloor insulation under ground bearing slab

### Advantages

- Excellent acoustic and thermal properties.
- High compressive resistance.
- Easy handling and fitting.
- Minimises thermal and acoustic bridging.

# Thermal Performance and U-values

## Design considerations

Rockfloor insulation may be used below most floor constructions, including:

- Flooring grade t & g chipboard, OSB, plywood etc. and supported on concrete slabs (ground bearing and suspended etc), or on fully boarded timber joisted floors.
- Screeds laid in accordance with BS 8204: Part 1, and supported on levelled concrete slabs, plank, beam and block floors etc.
- Concrete ground bearing slabs, on DPM, sand, hardcore.

The unique dual density Rockfloor enables it to be laid over a slightly uneven subfloor with the lower density absorbing imperfections and the high density surface providing excellent point load resistance. Rockfloor can be placed over or under the oversite slab. If placed under the slab an upstand of Rockfloor perimeter edge insulation must be placed around the perimeter to prevent cold bridging.

## Anhydrite screeds

Anhydrite floor screeds are pump applied, selflevelling screeds. Often used for sub floor levelling, they provide an ideal smooth, flat surface to receive thin floor coverings such as tiles.

Anhydrite screeds, of a minimum 40mm thickness, can also be applied as a floating construction over Rockwool Rockfloor (separated by a 250mm gauge polythene membrane). This can significantly reduce installation time and offers floor to ceiling height advantages over traditional 65mm thick sand/cement screeds.

Because the U-value for ground floors is dependent upon size, shape, soil type, edge insulation etc., it is not possible to quote specific values. The following tables however show insulation thickness required to suit floor types based on their P/A ratio.

### Construction 1: Ground bearing slab

Rockwool Rockfloor can be installed below the concrete slab or below screed.

Product	Rockfloor				
	U-value	0.25W/m <sup>2</sup> k	0.22W/m <sup>2</sup> K	0.20W/m <sup>2</sup> K	0.15W/m <sup>2</sup> K*
P/A ratio	Thickness (mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)	
0.1	nil	nil	nil	40	
0.2	30	50	65	125	
0.3	60	80	95	150	
0.4	75	95	110	170	
0.5	85	105	120	180	
0.6	90	110	130	190	
0.7	95	115	130	200	
0.8	105	120	140	200	
0.9	105	125	140	200	
1.0	110	130	145	---	

### Construction 2: Suspended beam and block

Rockwool Rockfloor is laid over the dense beam and block floor below screed or t&g flooring grade chipboard where floor heights are limited.

Product	Rockfloor				
	U-value	0.25W/m <sup>2</sup> k	0.22W/m <sup>2</sup> K	0.20W/m <sup>2</sup> K	0.15W/m <sup>2</sup> K*
P/A ratio	Thickness (mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)	
0.1	nil	30	50	125	
0.2	65	80	100	170	
0.3	80	100	120	180	
0.4	95	115	130	190	
0.5	100	120	135	200	
0.6	105	125	140	200	
0.7	105	130	145	200	
0.8	110	130	145	---	
0.9	115	130	150	---	
1.0	115	135	150	---	

### Part L (2006 edition) U-value requirement for Ground Floors:

Extensions: 0.22W/m<sup>2</sup>K

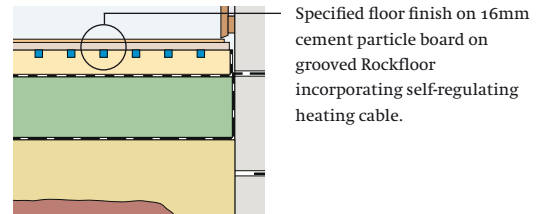
Renovation & Repair work: 0.25W/m<sup>2</sup>K

New build requirement could range between 0.20 and 0.18W/m<sup>2</sup>K to achieve a 20 - 28% improvement in energy performance standards.

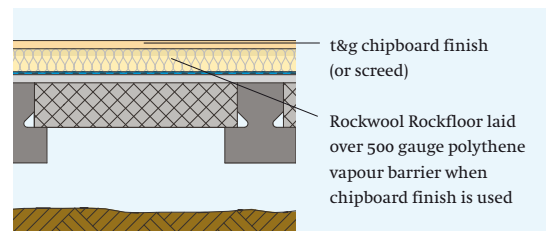
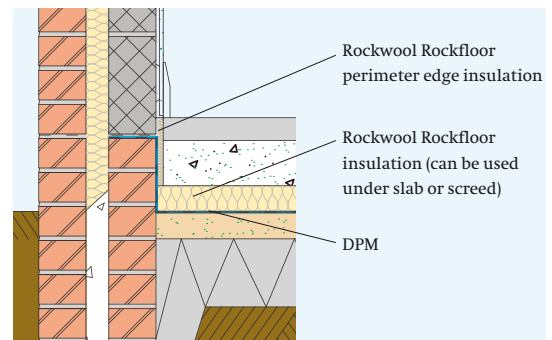
## Underfloor heating

Warm Floor Solutions are a complete floor and heating system, suitable for use in new-build and refurbishment projects. Warmfloor Solutions advance (see illustration below) underfloor heating technology by providing a complete 'dry' system, which comprises:

- 16mm cement particle board.
- Rockfloor grooved to accept heating cable.



For further details see [www.warmfloor-solutions.com](http://www.warmfloor-solutions.com)



\* Requirements Part 'L' Republic of Ireland where underfloor heating is specified.

# Acoustic Performance

## Acoustic Performance – separating floors

For the first time a minimum airborne performance standard has been set for separating floors. The Approved Document E (2003 edition) describes a range of constructions that should achieve these standards if built correctly.

*Ceiling Treatment* - one of the major changes in the ADE is for all floor systems to incorporate a ceiling system. Three types of ceiling are detailed. These are graded A, B and C, with A having a higher performance than B etc.

### Robust Details

The Approved Document E was amended in 2004 to allow Robust Details (RDs) to be used for new build separating wall and floor applications in dwellings.

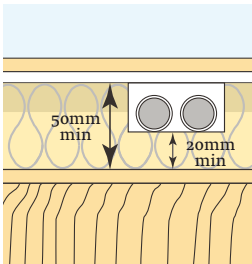
Compliance with the RDs will negate the requirement for pre-completion testing of new build separating wall and floor constructions.

Robust Details are based upon meeting sound test values in excess of those required by Approved Document E.

This guide will highlight RDs involving Rockwool products.

### Service Runs

Service Runs can be accommodated by recessing the Rockfloor. A minimum thickness of 50mm of Rockfloor is required in order to recess.



## Separating floor – Concrete

*Precast concrete plank*

E-FC-1

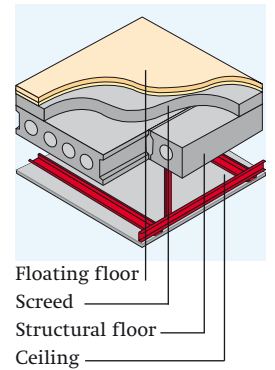
**Robust details platform floor finish FFT4:**

T & g flooring board on 25mm Rockwool Rockfloor (shown)

**Screed:** 40mm (min) screed nominal 80 kg/m<sup>2</sup> mass

**Structural floor:** 150mm (min) pre-cast concrete floor plank, minimum 300 kg/m<sup>2</sup> mass per unit area

**Ceiling Finish:** See Robust Detail handbook for suitable ceiling options



## Separating floor – Concrete

*Steel-concrete composite*

*In-situ concrete slab supported by profiled metal deck*

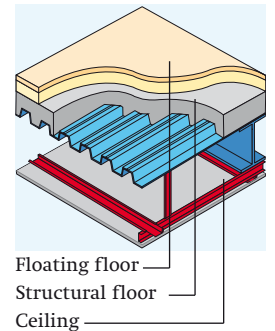
E-FS-1

**Robust details platform floor finish FFT4:**

T & g flooring board on 30mm Rockwool Rockfloor (shown)

**Structural floor:** In-situ concrete slab, min density 2200 Kg/m<sup>3</sup>, supported by profiled metal decking. Concrete thickness: 80mm(min) at shallowest point and 130mm (min) at deepest point

**Ceiling Finish:** See Robust Detail handbook for suitable ceiling options

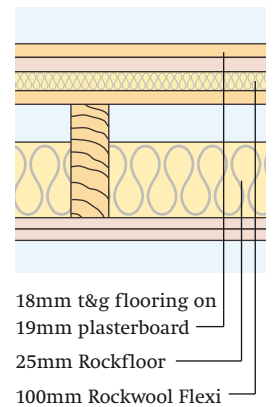


## Separating Timber Floor Upgrade (Material Change of Use): ADE section 4

*Airbourne DnT,w + Ctr 43dB (or more)*

*Impact L'nT,w 64dB (or less)*

- Floating layer: Min 2 layers of board material to provide min total mass 25Kg/m<sup>2</sup> spot bonded together with joints staggered ( eg 18mm t&g flooring grade chipboard & 19mm plasterboard plank).
- The floating layer to be loose laid over the Rockfloor
- 25mm (min) Rockwool Rockfloor resilient layer laid on
- Existing floor deck on existing timber floor joists
- 100mm Rockwool Flexi between joists
- Existing ceiling upgraded to 20Kg/m<sup>2</sup>. If existing ceiling is of lath & plaster it should be retained providing it satisfies Part B – Fire Safety. (If in doubt, underdraw with an additional layer of 12.5mm Firecheck board & screw into joists)
- Pre-completion site testing is required under ADE



**Note:** Enhanced solution using resilient bars

If the existing ceiling is being replaced, the sound performance of the floor can be further enhanced by fitting resilient bars which isolate the ceiling from the floor structure.

By adopting this method Site test Report no. 2271 showed construction exceeded ADE performance requirements

Airborne: Rw 48 dB DnTw + Ctr

Impact: 58 dB LnTw

# Description, performance and properties

## Description

### Dimensions

Rockfloor boards are manufactured to a standard size of 1000 x 600mm, and in a range of thicknesses from 25 to 130mm. Other thicknesses can be specially made to order, subject to the quantity required.

### Finish

Rockwool Rockfloor boards are supplied with a tissue face on the top surface. The surface also provides a useful medium for marking or scribing the boards for cutting, and facilitates the tight laying and jointing of chipboard.

### Resistance to moisture

Rockwool Rockfloor is water resistant but requires a DPM to protect against rising damp or high watertable areas.

### Compressive strength

Rockfloor will support the loads normally arising in houses, offices, shops and similar areas, due to its high modulus of compression.

## Standards and approvals

Rockwool Rockfloor complies with the requirements of BS EN 13162: 2001 Thermal Insulation products for buildings. Factory made mineral wool (MW) products specification.

## Laying method

The Rockfloor boards are laid lengthways to the longest wall, in a staggered joint pattern, tissue face upwards. The offcut at one end of the first row is then used to start the next row and similarly with subsequent rows.

### Chipboard

Starting from one corner of the room, lay the boards lengthwise parallel to the longest wall with the gap maintained against the adjacent walls. The boards are laid with staggered joints working towards the opposite corner of the room.

The final boards must be cut in order to maintain the appropriate gap against the wall.

### Edge detail

To allow for expansion of the chipboard a minimum 10mm wide gap should be provided around the room perimeter. This gap should be packed with self-adhesive neoprene isolating strips. Where acoustic insulation is required, a gap of approximately 5mm should be left between the chipboard and the bottom edge of the skirting.

### Thresholds

At thresholds, stair landings, or where a change in floor construction occurs, the insulation should be cut back and a timber batten of the same thickness as the insulation inserted to reinforce the edge. Where acoustic insulation is required, the batten thickness should be reduced to include a 6mm thick neoprene isolation strip bonded to the batten.

## Fire Performance

Rated A1 when tested to EN 13501-1 classification using test data from reaction to fire test.

Rockfloor Boards can be used in conjunction with flexi to construct a compartment floor, giving 1 hour fire resistance combined with acoustic isolation.

## Supply

Available throughout the United Kingdom and Ireland from all Rockwool stockists. A list of stockists is available on request.

## Ordering

Please quote the thickness in millimetres and the area in square metres.

## Health and safety

The safety of Rockwool mineral wool is confirmed by current UK and Republic of Ireland health & safety regulations and EU directive 97/69/EC; Rockwool fibres are not classified as a possible human carcinogen.

A Material Safety Data Sheet is available from Rockwool Customer Support (+44 0871 222 1780) to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH).

## Environment

Relying on entrapped air for its' thermal properties, Rockwool insulation does not contain (and has never contained) gases that have Ozone Depleting Potential (ODP) or Global Warming Potential (GWP). Rockwool therefore complies with the relatively modest threshold of GWP<5 included in documents such as the Code for Sustainable Homes.

Rockwool Ltd is increasingly involved in recycling waste Rockwool material that may be generated during installation or at end of life.

We are happy to discuss the individual requirements of contractors and users considering returning Rockwool materials to our factory for recycling.



## More information



For further details visit our website at [www.rockwool.co.uk](http://www.rockwool.co.uk) or phone Customer Support on 0871 222 1780

Rockwool Limited reserves the right to alter or amend the specification of products without notice as our policy is one of constant improvement.

The information contained in this data sheet is believed to be correct at the date of publication. Whilst Rockwool will endeavour 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 this data sheet.

The above applications do not necessarily represent an exhaustive list of applications for Rockfloor. Rockwool Limited does not accept responsibility for the consequences of using Rockfloor in applications different from those described above. Expert advice should be sought where such different applications are contemplated, or where the extent of any listed application is in doubt.

# ROCKWOOL®

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