CI/SfB | | (23.9) | Rm1 | (M2) (P3) |
July 2006 (replaces October 2003 issue)

Application type	Acoustic and thermal
Construction type	Floors

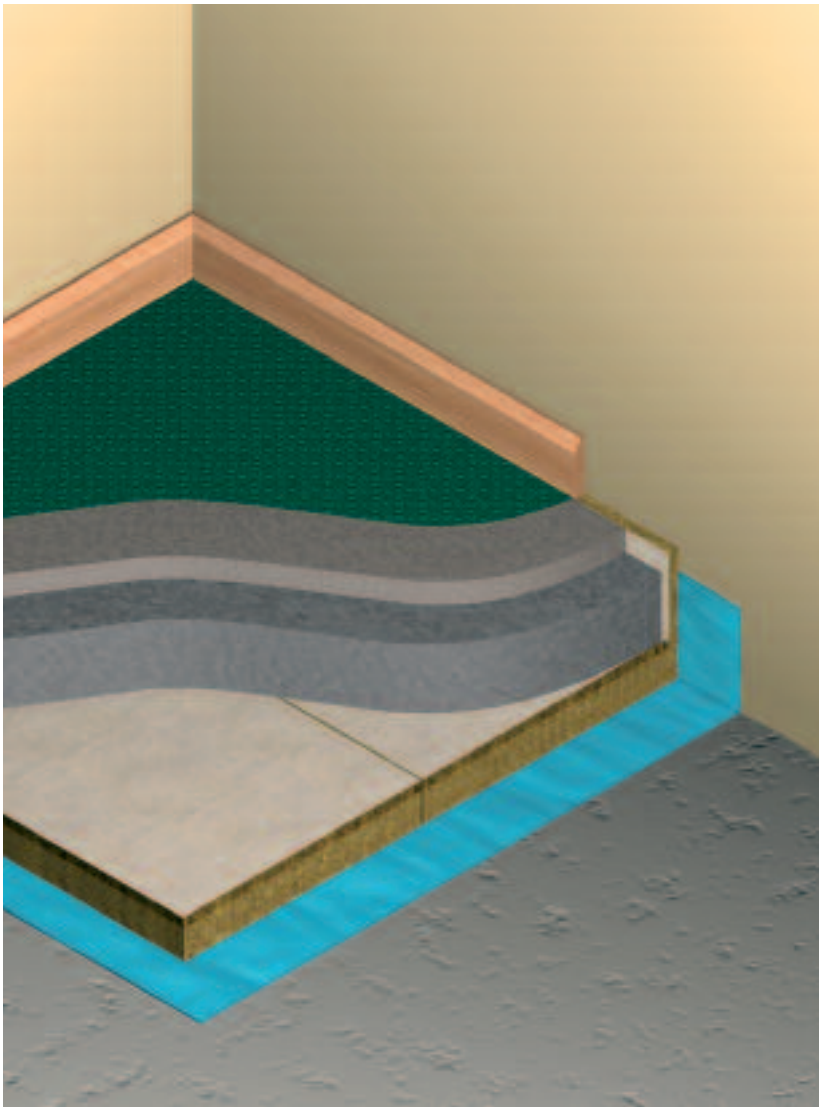
Rockfloor

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.

The Rockfloor range offers both rebated and square edge options.



Rockfloor insulation under ground bearing slab

Advantages

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

Certificate No FM 02262
0086-CPD-461281

The following NBS Plus clauses include Rockfloor:
E20:30, E20:200, K11:25, K11:215, K11:225, K11:235, K:11:245, K21:111, M10:40, M10:290, M10:295, M13:20, M13:260, M13:265

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 resitance. 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, self-levelling screeds. Often used for sub floor levelling, they provide an ideal smooth, flat surface to receive thin floor coverings such as tiles.

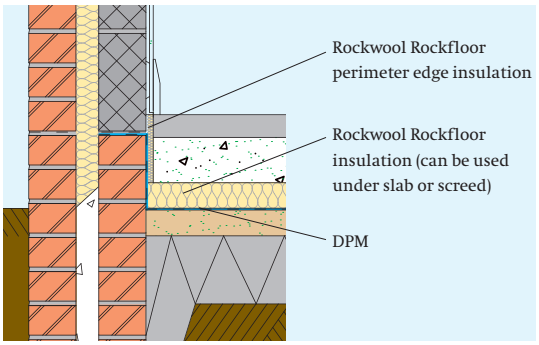
Anhydrite screeds, of a minimum 40mm thickness, can also be applied as a floating construction over Rockwool Rockfloor (separated by a 250mm gauge polythene membrane). This can significantly reduce installation time and offers floor to ceiling height advantages over traditional 65mm thick sand/cement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

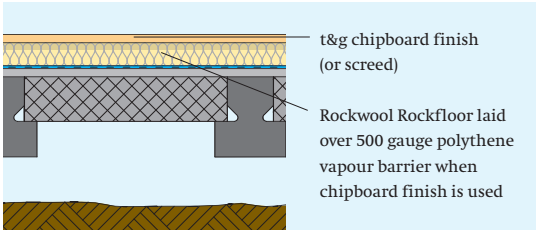
Product	Rockfloor			
U value	0.25W/m²k	0.22W/m²k	0.20W/m²k	0.18W/m²k
P/A ratio	Thickness (mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)
0.1	nil	nil	nil	nil
0.2	30	50	65	85
0.3	60	80	95	115
0.4	75	95	110	130
0.5	85	105	120	140
0.6	90	110	130	150
0.7	95	115	130	150
0.8	105	120	140	160
0.9	105	125	140	160
1.0	110	130	145	165



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/m2K	0.22W/m2K	0.20W/m2K	0.18W/m2K
P/A ratio	Thickness (mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)
0.1	nil	30	50	65
0.2	65	80	100	120
0.3	80	100	120	140
0.4	95	115	130	150
0.5	100	120	135	160
0.6	105	125	140	160
0.7	105	130	145	165
0.8	110	130	145	165
0.9	115	130	150	170
1.0	115	135	150	170



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

Extensions: 0.22W/m²K

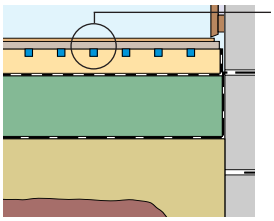
Renovation & Repair work: 0.25W/m²K

New build requirement could range between 0.20 and 0.18W/m²K to achieve a 20 – 28% improvement in energy performance standards.

Underfloor heating

ComfyFloor is a complete floor and heating system, suitable for use in new-build and refurbishment projects. The ComfyFloor System (see illustration below) advances underfloor heating technology by providing a complete 'dry' system, which comprises:

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



Specified floor finish on 16mm cement particle board on grooved Rockfloor incorporating self-regulating heating cable.

For further details see www.warmfloor-solutions.com

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.

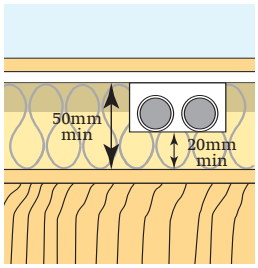
Robust Details are based upon meeting sound test values in excess of those required by Approved Document E.

This guide will highlight RDs involving Rockwool products.

Service Runs

Service Runs can be accommodated by recessing the Rockfloor by the use of the Rockwool 'shark' tool for accurate cutting. A minimum thickness of 50mm of Rockfloor is required in order to use the 'shark'.

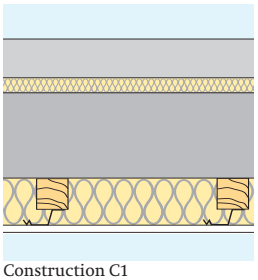
The Rockwool Shark tool



Concrete separating floor constructions

Construction C1: ADE section 3: Floor type 2
Screeded concrete floor
Minimum $D_{nT,w}$ + Ctr 45dB
Maximum $L'_{nT,w}$ dB

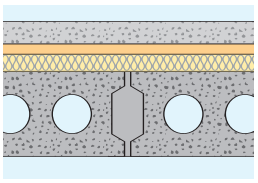
- 65mm (min) sand cement screed (reinforced) or alternative 40mm (min) proprietary anhydrite screed.
- Rockfloor acoustic insulation, (min) 25mm.
- Dense concrete floor slab. (min) 300kg/m².
- Ceiling, 50 x 50mm softwood battens, resilient bars fixed to timber battens (50mm flexi between battens optional).
- 1 layer of plasterboard 10kg/m².



Construction C1

Construction C2: Robust Detail E-FC-3
Rockwool SoundPro robust detail guidance specification
Precast concrete plank with screed laid on resilient layer

- Screed: 65mm min. sand cement screed or 40mm proprietary screed 80Kg/m² (min.) mass per unit area.
- Separating layer: 5mm foamed polyethylene layer 30–36Kg/m³
- Resilient layer: 25mm Rockwool Rockfloor
- Structural floor: 150mm min. precast concrete floor plank 300 Kg/m² (min.) mass per unit area.
- Ceiling: See Robust Detail handbook for suitable ceiling treatment



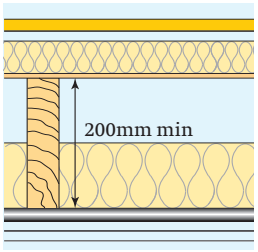
Construction C2

Timber separating floor constructions

Construction T1 (New Build): ADE section 3.95
Minimum $D_{nT,w}$ + Ctr 48dB
Maximum $L'_{nT,w}$ 62dB
Platform floor – with solid timber joists

- T & G Chipboard 18mm (min 15Kg/m²) – bonded to:
  - Plaster board layer (13Kg/m²).
  - Rockfloor acoustic resilient layer, (min) 25mm.
  - Plywood/OSB base (min 15mm).
  - Timber joists @ 400mm centres.
  - Rockwool Flexi (min) 100mm.
  - Resilient bar @ 400mm centres. 90° to joist direction.
  - Two layers of plasterboard (min) 24Kg/m².

* This Rockwool solution has the potential to meet the requirements set out in Part E.



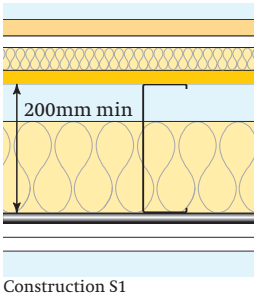
Construction T1

Metal separating floor constructions*

Construction S1: Platform floor – with metal joists

- T & G Chipboard 18mm (min 15Kg/m²) – bonded to:
  - Plaster board layer (13Kg/m²).
  - Rockfloor acoustic insulation, (min) 50mm.
  - Plywood/OSB base.
  - Steel joists @ 400mm centres.
  - Rockwool Roll or Flexi (min) 100mm.
  - Resilient bar @ 400mm centres. 90° to joist direction.
  - Two layers of plasterboard (min) 23Kg/m².

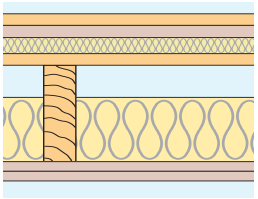
* This Rockwool solution has the potential to meet the requirements set out in Part E.



Construction S1

Construction T2 (Material Change of Use): ADE section 4
Airbourne $D_{nT,w}$ + Ctr 43dB
Impact $L'_{nT,w}$ 64dB
Platform floor with absorbent material

- Min 2 layers of board material to provide min total mass 25Kg/m² 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/m². 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



Construction T2

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.

30 and 40mm thick Rockfloor boards have all four edges rebated (coverage area 980 x 580mm, allowing for rebates).

Finish
Rockwool Rockfloor boards are supplied with a tissue face on the top surface. **Note:** The rebated Rockfloor boards allow non-anhydrite screeds to be laid directly onto the boards without the use of a separating layer. The surface also provides a useful medium for marking or scribing the boards for cutting, and facilitates the tight laying and jointing of tongue and groove 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, (the tongue on the first row being removed), 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. All tongue and groove joints must be glued with PVA adhesive and tightly engaged.

The final boards must be cut in order to maintain the appropriate gap against the wall and to allow the tongue and groove joints to be engaged.

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, the area in square metres and if square edge or rebated board is required.

Shark cutting tool

Available from Rockwool Limited.

Health and safety

Current HSE 'CHIP' Regulations and EU directive 97/69/EC confirm the safety of Rockwool mineral wool; Rockwool fibres are not classified as a possible human carcinogen.

The maximum exposure limit for mineral wool is 5mg/m^3, 8 hour time-weighted average.

A Material Safety Data Sheet is available from the Rockwool Marketing Services Department to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH).

Environment

Rockwool insulation relies on entrapped air for its thermal properties; air is not a VOC and it does not have Global Warming Potential (GWP) or Ozone Depleting Potential (ODP).

ZERO GWP
GLOBAL WARMING POTENTIAL

ZERO ODP
OZONE DEPLETING POTENTIAL

Technical Information

For further details visit our website at www.rockwool.co.uk or phone the Technical Hotline on 0871 222 1780

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