

Rockfloor

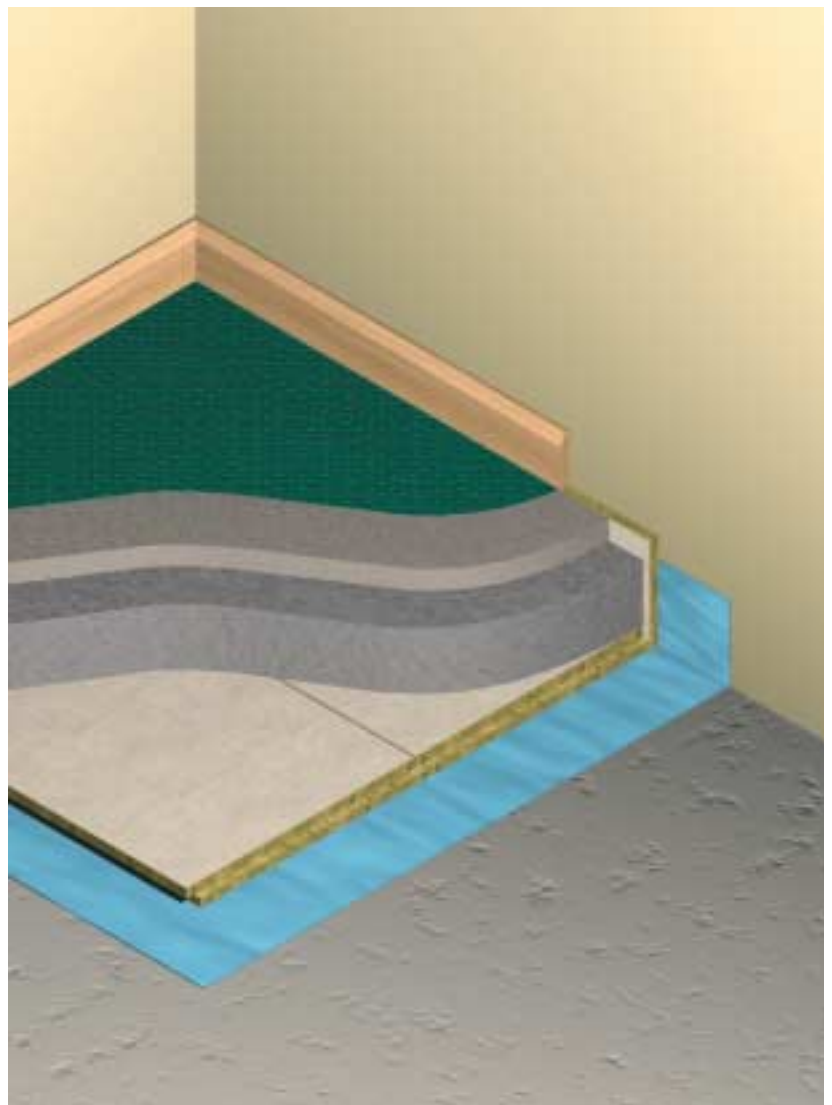
Acoustic and Thermal insulation for ground and intermediate floors

Rockwool Rockfloor is a tissue-faced, high compressive strength rock wool board specially formulated for the thermal insulation of ground floors and the acoustic insulation of intermediate floors. Manufactured in a wide range of thicknesses, it is easy to lay and to fit around services or other obstructions, and is sufficiently flexible to accept small irregularities in the sub-floor.

All four edges of the product are rebated, minimising the possibility of thermal bridging. The tissue facing allows traditional wet screed construction without a building paper.

Advantages

- Excellent acoustic and thermal properties
- High compressive resistance
- Easy handling and fitting
- No building paper required under traditional screeds
- No thermal bridging



Rockfloor insulation under ground bearing slab

Design and applications

Standards

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

Description

Dimensions

Rockfloor insulation Boards are manufactured in a standard size of 1200 × 600 mm (coverage area 1180 × 580 mm allowing for rebates) and in thicknesses ranging from 30 mm to 100 mm in 10 mm increments. Other thicknesses can be made to special order, depending on quantity. The rebate, which is on all four edges has a standard width of 20 mm for all board thicknesses, as shown in the illustration below.

Finish

Rockwool Rockfloor boards are supplied with a tissue face on the top surface. This facing allows the laying of screeds directly onto the boards. 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.

Environment

No CFCs, HFCs or HCFCs are used in the manufacture of Rockwool materials.

Design considerations

Thermal

When used for thermal insulation, Rockfloor may be placed:

- under flooring grade chipboard, OSB, plywood etc, supported on concrete slabs (ground bearing and suspended etc) and on fully boarded timber joisted floors.
- under screeds laid in accordance with BS 8204: Part 1, and supported on levelled concrete slabs, plank, beam and block floors etc
- under concrete ground bearing slabs supported on DPM, sand, hardcore

1 Boarded applications

Rockfloor may be used over any type of sub-floor, provided it is adequately supported and the sub floor is flat. Rockfloor will absorb minor imperfections, but, if the sub-floor is generally uneven, a levelling screed should be applied. With suspended timber floors the Rockfloor should be supported on 15 mm minimum thickness plywood nailed to the joists.

VAPOUR CONTROL LAYER (VCL)

It is recommended that a polyethylene vcl (min. 1200 gauge) be installed either immediately below or above the insulation, to protect the chipboard from moisture migration.

EDGE DETAIL

To allow for expansion of the chipboard a minimum 10 mm wide gap should be provided around the room perimeter. This gap should be packed with Rockfloor offcuts. Where acoustic insulation is required, a gap of approximately 5 mm 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 6 mm thick neoprene isolation strip bonded to the batten.

2 Under slab applications

As an alternative to placing the Rockfloor under the screed, it may be placed under the slab (see front cover), provided the slab is only supporting normal floor loads. The Rockfloor should be placed on the DPM prior to pouring the concrete. An upstand of Rockfloor must be placed around the perimeter to isolate the floor slab thermally from the wall.

3 Screeded applications

The Rockfloor insulation is laid under the screed, which can then be the basis for any type of floor finish. The screed should be minimum 75 mm thick (minimum 65 mm for dwellings) and preferably of fine concrete. It should contain light wire mesh reinforcement and be laid strictly in accordance with BS 8204: Part 1. A separating layer of building paper is not required with Rockfloor. An upstand of Rockfloor should be placed around the perimeter to isolate the screed thermally and acoustically from the wall.

4 High performance screeds

Where thinner screeds are required, high performance specialist screeds may be applied above Rockfloor, but must be laid strictly in accordance with the screed manufacturer's recommendations.

Isocrete Gyvlon floor screed

Isocrete Gyvlon is a pump-applied self-levelling synthetic anhydrite floor screed. It is used for sub-floor levelling, providing an ideal smooth, flat surface to receive thin floor coverings, tiles and other specialist finishes and toppings.

Isocrete Gyvlon can be laid as a floating construction over Rockwool Rockfloor, at a minimum thickness of 35 mm. This offers significant weight, speed and floor-to-ceiling height advantages over traditional cement and sand screeds at 65 mm. Also, no reinforcement is required in Isocrete Gyvlon screed.

5 Underfloor heating

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

- Rockwool Rockfloor insulation slab (rebated)
- Alcatel heating cable
- Cape Pyrok flooring panel
- ComfyFloor air thermostat and floor sensor

40 mm Isocrete Gyvlon screed on 50 mm Rockfloor on Polythene d.p.m.

Edge insulation with offcuts

Dense concrete floor slab (min 300 kg/m²)

High performance screed – Rockfloor boards used in conjunction with Isocrete Gyvlon floor screed

Specified floor finish on 16 mm Cape Pyrok on Alcatel heating cable on Rockfloor Board on vapour control layer

Underfloor heating – Rockfloor boards rebated to receive heating cables in ComfyFloor System

18 mm chipboard on 19 mm plasterboard on 30 mm Rockfloor on 15 mm plywood

100 mm RW2 on 19 mm plasterboard panel cut and fitted into wire mesh on existing ceiling

Fire performance – Rockfloor boards used in 1 hour fire-resisting compartment floor

Performance

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 RW2 Slab to construct a compartment floor, giving 1 hour fire resistance combined with acoustic isolation.

The construction shown alongside is a combination of those shown in test reports FR907 and L2206/E.

Resistance to moisture

Rockwool Rockfloor is water resistant but requires a DPM to protect against rising damp.

Compressive strength

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

(The difference in compressive deflections in table 1 between screeded and panel overlay situations is due to the filling of the patterned surface on one side of the boards.)

Rockfloor Boards are mechanically capable of supporting a non-loadbearing partition, but such a construction is not recommended where acoustic insulation is required.

Acoustic performance

The constructions shown alongside have been tested and achieved the requirements of the National Building Regulations and Standards for either new build or conversions. Test results are given in table 3 below. Copies of the test reports are available on request.

Note It is strongly recommended that floor types 3B and 3C shown in Part E of the Regulations are not used. Test reports shown below are laboratory tests.

Table 3 Acoustic performance – test results

	Airborne sound reduction (dB)	Impact sound reduction (dB)
New build requirement	52 (or greater)	61 (or less)
Refurbishment requirement	48 (or greater)	65 (or less)
Test No. L2206/B	59	44
Test No. L2206/B*	52	53
Test No. L2206/E	56	62
Test No. AAD 91137	52	54

Note The actual sound insulation performance of a given separating floor in a particular application will depend on the detailing of the floor itself and on the overall building design and quality of workmanship. Site testing would determine the performance in specific circumstances. Test reports above are laboratory tests.

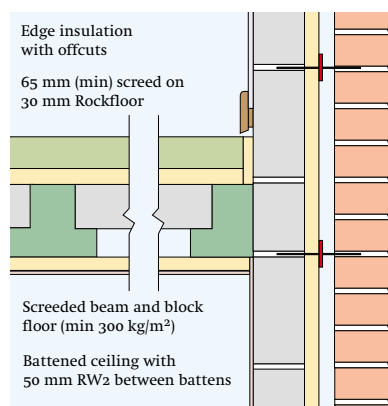
'U' values

Insulation thicknesses relating to typical wall constructions are provided in the separate U Value section of the Rockwool Red Book.

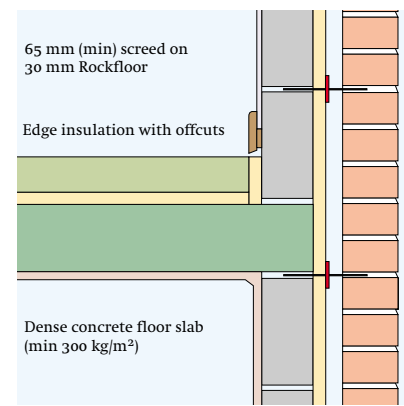
Table 1 Compressive deflection

Situation	Expected distributed loading (kN/m ²)	Compressive deflection under screed or slab (mm)	Compressive deflection between two smooth surfaces (mm)
General domestic	1.5	0.1	0.4
Hotel bedrooms, Dormitories	2.0	0.2	0.5
Offices, Corridors, Stairs	4.0	0.4	0.7
Public assembly areas, Bars	5.0	0.5	0.8
Car parks, Driveways	5.0	0.5	0.8
Boiler or machinery rooms	7.5	0.7	1.0
Cold storage areas	15.0	1.1	1.4
Foundries, Heavy industrial	20.0	1.3	1.6

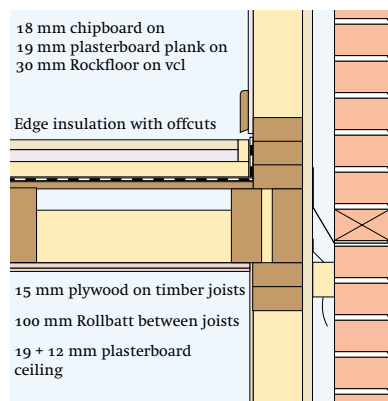
The above results were obtained from testing to BS EN 826: 1996



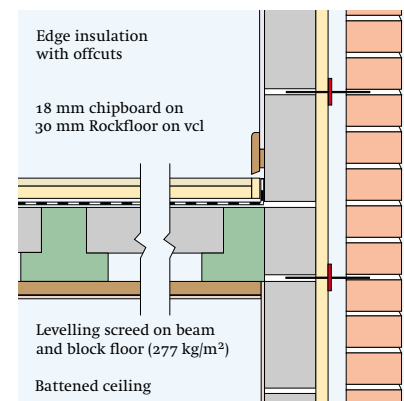
Acoustic control – Screeded beam and block floor – Laboratory test report L2206/B



Acoustic control – Rockfloor on screeded concrete floor slab – Laboratory test report L2206/B*
*modified by Assessment dated 9/7/1993



Acoustic control – Timber joisted floor – Laboratory test report L2206/E



Acoustic control – Chipboard on beam and block floor – Site test report AAD 91137

Sitework

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.

The rebated edges of the Rockfloor boards will assist in obtaining the tight fit necessary to produce a true and level surface for the final floor finish.

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.

Temporary wedges should be used around the perimeter to ensure all glued joints are tight. When the glue has set, the wedges should be removed and the perimeter gap filled with Rockfloor offcuts.

Baths, kitchen units etc

It is recommended that permanently fitted heavy items such as baths, WCs, kitchen units and the like should be supported directly from the sub-floor or via previously positioned timber battens recessed within the insulation layer.

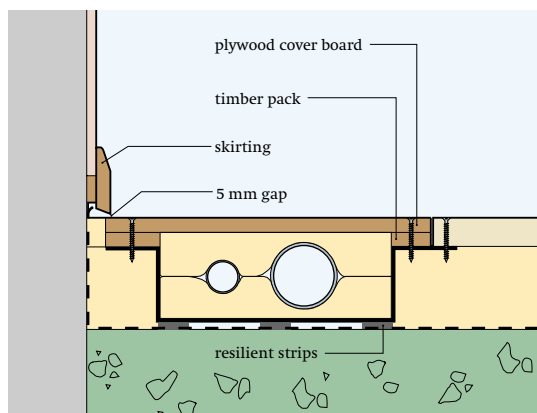
Service runs

Services may be accommodated by either recessing the insulation or, where access is required, by using purpose made ducts. Consideration should be given to the local Water Bye-Laws (Bye-Law 58) regarding the provision of access to pipes.

When electrical conduit is to be placed within or below the insulation, the electrical sub-contractor should check whether the size of the cables needs to be increased to comply with IEE Wiring Regulations.

Ducts

Ducts are available for incorporation into both screeded and chipboard floors. Details are available from JB Products (Midlands) Ltd. A typical installation detail using a purpose-made metal ducting system is illustrated below.



Galvanised ms duct with integral insulation allows access to service run



Rockfloor being laid



Chipboard being applied as a floating floor construction

Supply

Available throughout the United Kingdom 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.

Useful contacts

Underfloor heating

ComfyFloor Systems Limited

Tel 01672 541228 Fax 01672 540168

Specialist screeds

Isocrete

Tel 01270 753753 Fax 01270 753333

Handling and storage

Rockwool Rockfloor boards are light and easy to handle. The boards are fully palletised and polyethylene wrapped for short term protection, but for long term protection they should be stored indoors or under a weatherproof covering.

Health and Safety

A COSHH Data Sheet is available from the Rockwool's Marketing Services Department.

Current HSE 'CHIP' Regulations and EU Directive 97/69/EC confirm that Rockwool fibres are not classified as a possible carcinogen.

Technical Helpline

Technical advice relating to Rockfloor is available from the Rockwool Technical Helpline Services Department 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.

WILHAMS

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