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WILHAMS INSULATION FAR EAST SDN BHD

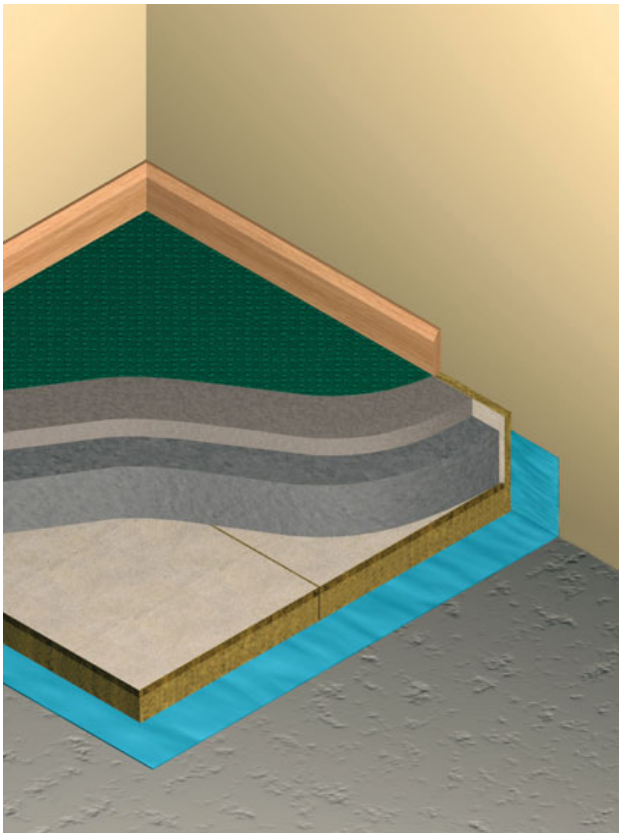
IHeatPro®

Wilhams RockFloor

Thermal insulation for ground floors and separating floors

Wilhams RockFloor is a tissue faced high strength slab designed to meet both MS 1525 : 2014 and the Green Building Index assessment tools.

The Wilhams RockFloor boards offer a unique economic, thermal insulation for ground floors and acoustic insulation for separating floors.



Advantages

- Contributes to GBI requirements
- Aids MS 1525 compliance
- Excellent acoustic and thermal properties
- High compressive resistance
- Easy handling and fitting
- Minimises thermal and acoustic bridging
- CFC and HCFC free
- Resistance to foot traffic
- Easy laying of t & g flooring
- Dimensionally stable

Description

Dimensions

Wilhams RockFloor boards are manufactured to a standard size of 1185 x 585mm, and in a range of thicknesses from 30 up to 100mm. Other thicknesses can be specially made to order, subject to the quantity required.

Finish

Wilhams 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

Wilhams RockFloor is water resistant but requires a damp proof membrane to protect against rising damp or high watertable areas when used below ground-bearing concrete.

Compressive strength

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

Standards and Approvals

Wilhams RockFloor complies with the requirements of BS EN 13162:2001 “Thermal insulation products for buildings. Factory made mineral wool (MW) products specification.”

Performance and Properties

Fire

Rated A1 when tested to EN 13501-1 Fire classification of construction products and building elements. Classification using test data from reaction to fire tests.

Wilhams RockFloor boards can be used in conjunction with Wil-Kool® to construct a compartment floor, giving 1 hour fire resistance combined with acoustic isolation.

U-values
Wilhams RockFloor contributes to Green Building Index (GBI) requirements, significantly improving the energy efficiency of the floor.

This solution also aids compliance to MS 1525 Energy efficiency and use of renewable energy for non-residential buildings - Code of practice. Please contact our technical department regarding insulation thicknesses relating to typical floor constructions or see the table shown below.

Wilhams RockFloor insulation may be used below most floor constructions, including:

- 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 damp proof membrane with sand and hardcore.
- Flooring grade t&g chipboard, OSB, plywood etc.and supported on concrete slabs (ground bearing and suspended etc), or fully boarded timber joisted floors.

The Wilhams RockFloor boards enable it to be laid over a slightly uneven subfloor absorbing imperfections whilst providing excellent point load resistance. Wilhams RockFloor can be placed over or under the oversite slab. If placed under the slab, an upstand of Wilhams RockFloor perimeter edge insulation must be placed around the perimeter to prevent warm bridging.

Anhydrite screeds
Anhydrite floor screeds are typically 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 Wilhams 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.

U-value for Construction 1: Ground Bearing Slab

Wilhams RockFloor can be installed below the concrete slab or below screed.

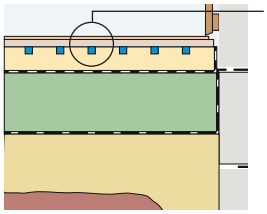
Product	Wilhams RockFloor			
U-value	0.25 W/m²K	0.22 W/m²K	0.20 W/m²K	0.15 W/m²K
P/A ratio	Thickness (mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)
0.1	nil	nil	nil	40
0.2	30	50	65	125
0.3	60	80	95	150
0.4	75	95	110	170
0.5	85	105	120	180
0.6	90	110	130	190
0.7	95	115	130	200
0.8	105	120	140	200
0.9	105	125	140	200
1.0	110	130	145	-

U-value for Construction : Suspended Beam and Block
Wilhams RockFloor is laid over the dense beam and block floor below screed or t&g flooring grade chipboard where floor heights are limited.

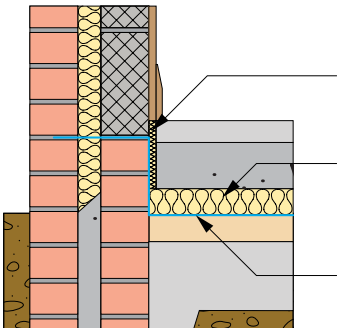
Product	Wilhams RockFloor			
U-value	0.25 W/m²K	0.22 W/m²K	0.20 W/m²K	0.15 W/m²K
P/A ratio	Thickness (mm)	Thickness (mm)	Thickness (mm)	Thickness (mm)
0.1	nil	30	50	125
0.2	65	80	100	170
0.3	80	100	120	180
0.4	95	115	130	190
0.5	100	120	135	200
0.6	105	125	140	200
0.7	105	130	145	200
0.8	110	130	145	-
0.9	115	130	150	-
1.0	115	135	150	-

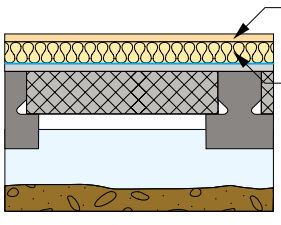
Underfloor cooling
Cool floor solutions are a complete floor and cooling system, suitable for use in new-build and refurbishment projects. Cool floor solutions advance (see illustration below) underfloor cooling technology by providing a complete 'dry' system, which comprises:

- 16mm cement particle board.
- Wilhams RockFloor grooved to accept cooling tubes.



Specified floor finish on 16mm cement particle board on grooved Wilhams RockFloor incorporating self-regulating cooling tube.



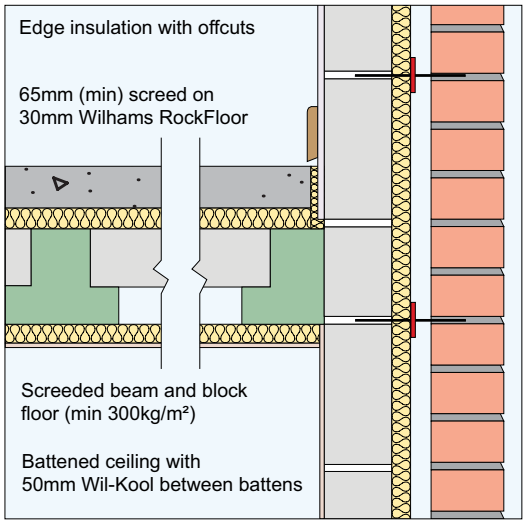


Acoustic

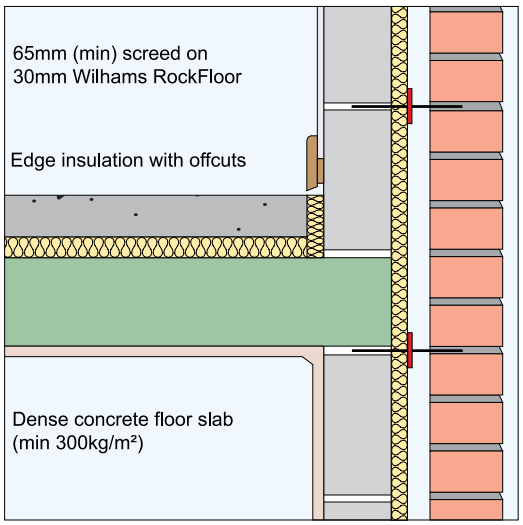
The constructions shown alongside have been tested and achieved the test results below. Copies of the test reports are available on request.

	Airborne sound reduction (dB)	Impact sound reduction (dB)
Test No. L2206/B	59	44
Test No. L2206/B*	52	53
Test No. L2206/E	56	62
Test No. AAD 91137	52	54

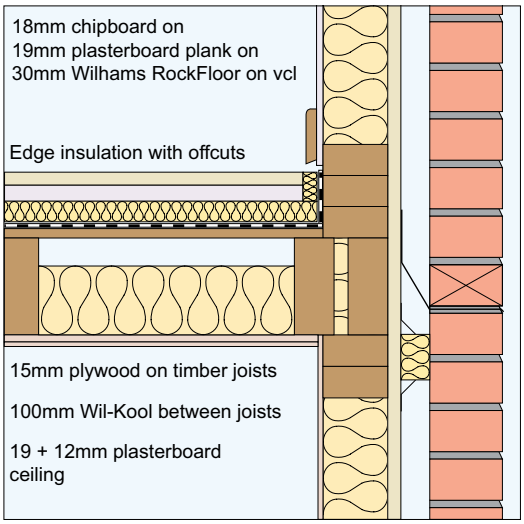
Note: The actual sound insulation performance of a given separating floor in a particular application will depend on the detailing of the floor itself and on the overall building design and quality of workmanship. Site testing would determine the performance in specific circumstances. Test reports above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



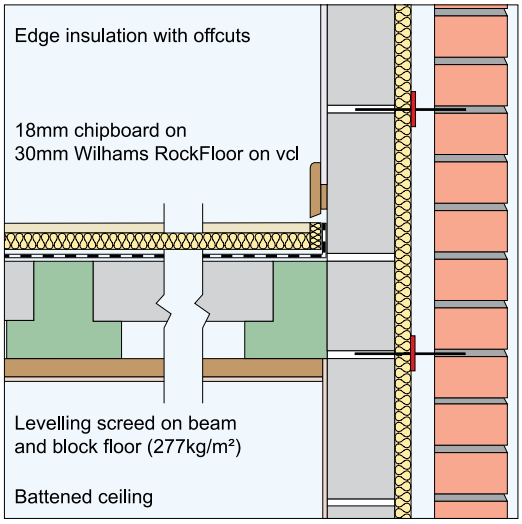
Acoustic control – Screeded beam and block floor – Laboratory test report L2206/B



Acoustic control – Wilhams 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

Compressive Deflection

Situation	Expected distributed loading (kN/m²)	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

Installation

Laying method

The Wilhams RockFloor boards are laid lengthways to the longest wall, (the tongue of 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.

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 perimetre. This gap should be packed with self-adhesive neoprene isolationg strips. Where acoustic insulation is required, a gap of approximately 5mm should be left between the chipboard and the bottom edge of the skirting.

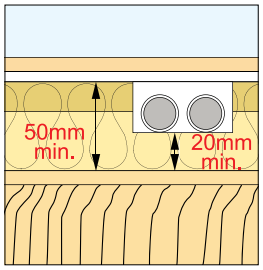
Thresholds

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.

Service runs

Service runs can be accommodated by recessing the Wilhams RockFloor. A minimum thickness of 50mm of Wilhams RockFloor is required in order to be recessed.

When electrical conduit is to be placed within or below the insulation, the electrical sub-contractor should check whether the size of the cables need to be increased.



Health and Safety

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

A Material Safety Data Sheet is available from Wilhams Customer Support (+603-7846 6728) to assist in the preparation of risk assessments.

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