

## AIMCOUSTIC FLOOR SLAB

December 2003

### Applications

Aimcoustic Floor Slab has been developed to thermally insulate ground floors and to provide acoustic and thermal insulation to upper floors. Aimcoustic Floor Slab may be used under a fine concrete screed - 'wet' construction, or under flooring grade chipboard - 'dry' construction. The tissue facing allows the laying of wet screed directly to Aimcoustic Floor Slab without building paper. When selected, the rebated edges of Aimcoustic Floor Slab prevent grout leakage and act against thermal and acoustic bridging in service. Aimcoustic Floor Slab may be laid on ground, or on timber, beam & block or concrete suspended floors.

### Acoustic System

Contact AIM for details of Acoustic systems

### Fire Rated Timber Floor

Where a one hour fire rating is required for a timber joist floor, the AIM FireFloor System 2 may be used.

### Aimcoustic Floor Slab - Properties

Thickness mm	Density kg/m <sup>3</sup>	Slab length mm	Slab width mm	Slab Weight kg	Weight / sq metre kg/m <sup>2</sup>
25	200	1200	1000	6.00	5.0
30	200	1200	1000	7.20	6.0
40	200	1200	1000	9.60	8.0
50	D.D.*	1200	1000	8.88	7.4
60	D.D.*	1200	1000	10.80	9.0
70	D.D.*	1200	1000	12.36	10.3
80	D.D.*	1200	1000	13.92	11.6
90	D.D.*	1200	1000	15.44	12.9
100	D.D.*	1200	1000	17.04	14.2

\*D.D. = Dual Density

Vapour Resistivity 7 MNs/g

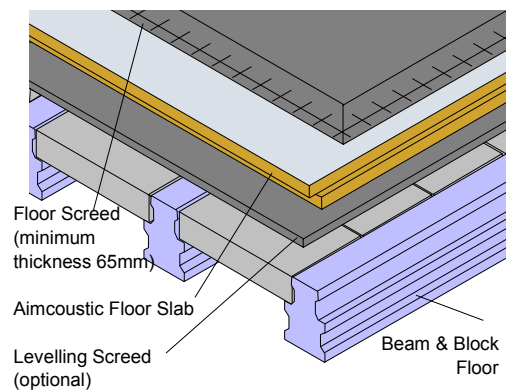
Fire Performance Class O to the Building Regulations

### Aimcoustic Floor Slab

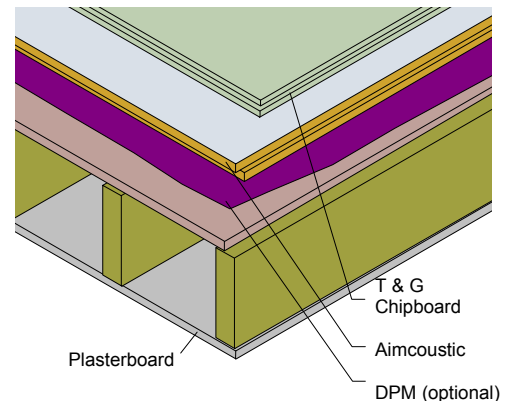
- ~ High compressive strength
- ~ Optional four edge rebated
- ~ Thermal & acoustic insulation
- ~ Intermediate & ground floors

### High Density Tissue Faced Rock Wool Floor Slab with optional rebates to all four edges

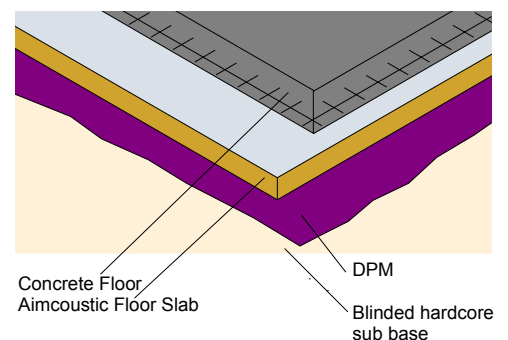
#### BEAM & BLOCK FLOOR WITH SCREED



#### TIMBER FLOOR WITH CHIPBOARD



#### ON GROUND CONSTRUCTION



**Fixing Details**

**Sub Floor**

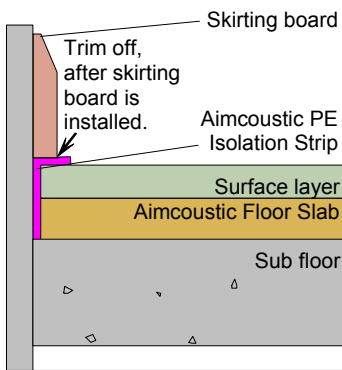
The sub floor must be structurally sound and level. Aimcoustic Floor Slab will accommodate minor imperfections of flatness and burrs of concrete but for more major unevenness, it will be necessary to lay a levelling screed, (or sheathing ply over timber).

**Damp Proof Membrane**

A DPM is required under Aimcoustic Floor Slab when laid on ground and on upper floors where moisture migration from the new sub floor may damage the chipboard.

**Perimeter Strip**

The perimeter of the floor should be lined with Aimcoustic PE Isolation Strip 5mm thick, to allow for acoustic isolation and expansion of chipboard surface layer (where used). The Depth of the Aimcoustic Isolation Strip is to be the thickness of Aimcoustic Floor Slab plus the thickness of surface layer (i.e. screed or chipboard).



**Laying Aimcoustic Floor Slab**

Boards should be laid lengthwise to the longest wall, (having removed the tongue where the slab abuts the wall), with staggered joints, tissue face upwards.

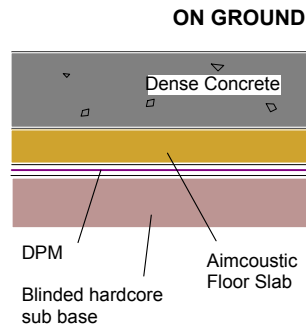
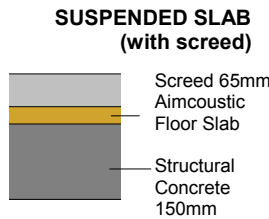
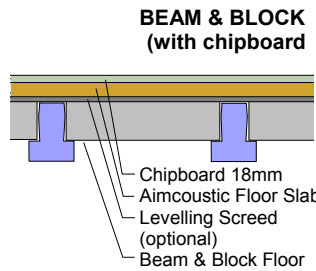
**Chipboard Surface Layer**

Flooring Grade P5 T&G Chipboard should be laid with staggered joints, the long edges being parallel with the longest wall. All tongue and groove joints should be glued with PVA adhesive. Temporary wedges should be used at the perimeter to hold the tongue and groove joints tight, whilst the adhesive sets. When the adhesive has set the wedges must be removed and damage to the Isolation Strip made good.

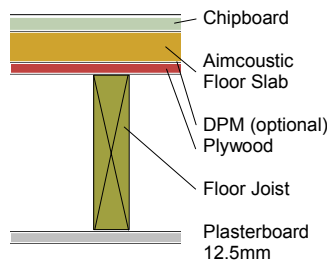
At door thresholds or where a change in floor construction occurs, a timber batten of the same thickness as the insulation should be inserted to reinforce the edge. Skirting boards should finish approximately 5mm above floor level and should be isolated from the chipboard with the Aimcoustic PE Isolation Strip .

**Screeded Surface Layer**

The Screed should be of fine concrete and a minimum depth of 65mm (75mm for non-domestic applications). A light wire mesh is required in the screed. An upstand of Aimcoustic PE Isolation Strip is required at all perimeters as described above.



**TIMBER FLOOR WITH CEILING**



**Typical Constructions and U values**

**P/A ratios for suspended ground floors to achieve 0.25 W/m²K U value, with Aimcoustic Floor Slab**

Aimcoustic Thickness mm	Concrete beam and block floor		Reinforced Concrete slab 150mm thick	
	Ventilation opening area per unit perimeter of underfloor space m²/m			
	0.0015 P/A RATIO	0.003 P/A RATIO	0.0015 P/A RATIO	0.003 P/A RATIO
25	0.14	0.13	0.13	0.12
30	0.14	0.13	0.14	0.13
40	0.16	0.15	0.16	0.14
50	0.19	0.17	0.18	0.17
60	0.22	0.20	0.21	0.19
70	0.27	0.25	0.26	0.24
80	0.35	0.32	0.33	0.30
90	0.47	0.43	0.43	0.40
100	0.70	0.62	0.63	0.56

**P/A ratios for on ground floors to achieve 0.25 W/m²K U value, with Aimcoustic Floor Slab**

Aimcoustic thickness mm	25	30	40	50	60
P/A ratio	0.15	0.15	0.20	0.25	0.25
Aimcoustic thickness mm	70	80	90	100	
P/A ratio	0.30	0.40	0.50	0.70	

**U<sub>f</sub> value (W/m²K) of suspended floor with Aimcoustic - internal unheated room underneath**

Aimcoustic Thickness	Joisted timber with ceiling under	Concrete beam and block floor	Reinforced Concrete slab 150mm thick
0	1.24	2.08	2.38
25	0.60	0.74	0.78
30	0.57	0.70	0.74
40	0.50	0.59	0.61
50	0.44	0.52	0.54
60	0.40	0.46	0.47
70	0.36	0.41	0.42
80	0.33	0.37	0.38
90	0.30	0.34	0.34
100	0.28	0.31	0.31

**Notes to all tables**

Calculated in accordance with BS EN ISO 6946 : 1997 and Approved Document L2 2002 The Building Regulations 2000. The calculations assume that there are no air gaps in the insulation layer. This means that the insulation must be installed so as to join tightly. P/A is the perimeter of the building divided by the area.

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