



## FR5000 Beam and Block Floor Applications

Floor Insulation

**Celotex**  
Insulation Specialists

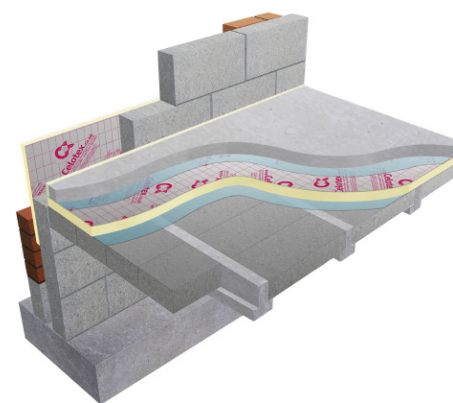
### Introduction

Celotex is the brand leading manufacturer of PIR insulation boards, with its range encompassing the thinnest and thickest boards available to the construction industry today. All of the Company's products are manufactured at its plant in Suffolk, from where the dedicated Celotex Technical Centre offers advice and calculations for compliance with current regulations and legislation.

Celotex: We know insulation inside and out.

Use **Celotex FR5000** high performance thermal insulation in beam and block floors to minimise insulation thickness and give the following benefits:

- A thermal conductivity value of 0.021W/mK offering enhanced thermal performance and even better U-values
- An A+ rating when compared to the BRE Green Guide
- Class O fire performance throughout the entire product
- Easy to cut boards to fit in most spaces
- Provides reliable long term energy savings for buildings
- Excellent dimensional stability
- Optimised continuity with wall insulation
- Tightly butted joints for insulation continuity



Celotex FR5000 in a beam and block floor with screed

### Celotex FR5000 Technical Data

Product Code	Thickness (mm)	R-value (m <sup>2</sup> K/W)	Weight (kg/m <sup>2</sup> )
FR5025	25	1.15	1.01
FR5040	40	1.90	1.49
FR5050	50	2.35	1.81
FR5060	60	2.85	2.16
FR5070	70	3.30	2.48
FR5075	75	3.55	2.64
FR5080	80	3.80	2.80
FR5090	90	4.25	3.12
FR5100	100	4.75	3.38
FR5120	120	5.70	4.02
FR5150	150	7.10	4.98

### Sustainable Insulation

Celotex PIR insulation has been independently assessed by BRE Global and has been accredited with an A+ rating when compared to the BRE Green Guide.

The results also show that Celotex offers a lower environmental impact than other typical PIR manufacturers.

For further information about Celotex' sustainable insulation solutions, visit the sustainability pages of the website at [celotex.co.uk](http://celotex.co.uk)



cont...



# FR5000 Beam and Block Floor Applications

Floor Insulation

**Celotex**  
Insulation Specialists

## Example U-value Calculation: Ground Floor - Beam and Block

Celotex Product	Thickness (mm)	Perimeter / Area Ratio									
		0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
FR5000	50	0.16	0.21	0.24	0.25	-	-	-	-	-	-
FR5000	60	0.15	0.19	0.21	0.23	0.24	0.24	0.25	0.25	-	-
FR5000	70	0.14	0.18	0.19	0.20	0.21	0.22	0.22	0.22	0.23	0.23
FR5000	75	0.14	0.17	0.18	0.19	0.20	0.21	0.21	0.21	0.21	0.22
FR5000	80	0.13	0.16	0.18	0.19	0.19	0.20	0.20	0.20	0.20	0.21
FR5000	90	0.12	0.15	0.16	0.17	0.18	0.18	0.18	0.18	0.19	0.19
FR5000	100	0.12	0.14	0.15	0.16	0.16	0.17	0.17	0.17	0.17	0.17
FR5000	120	0.11	0.12	0.13	0.14	0.14	0.14	0.14	0.15	0.15	0.15
FR5000	150	0.09	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12

Based on 65mm screed and 20mm insulation as perimeter upstand

## Installation Guidelines

Celotex insulation boards should not be installed when the temperature is at or below 4°C and falling.

- If appropriate, install a damp proof membrane to the top surface of the beam and block floor.
- Level the surface of the floor; it should be smooth and free of projections. Use a thin layer of sand blinding to ensure that the insulation boards are continuously supported.
- Use the **Celotex Insulation Saw** to cut and fit insulation upstand to floor perimeter, to meet a minimum R-value of 0.75 m<sup>2</sup>K/W. The upstand depth should be equal to the sum of the slab insulation and the screed thickness. The upstand thickness should not exceed the combined thickness of the wall lining.
- Lay the insulation boards directly onto the prepared beam and block floor with all joints tightly butted.
- Lay a polythene vapour control layer (VCL) over the insulation to minimise the risk of condensation forming at the insulation/slab interface and to prevent liquid screed migration.
- Apply a sand/cement or self levelling screed over the Celotex insulation boards to a minimum thickness of 65mm.

Use scaffold boards or other protection to prevent wheelbarrows and other traffic damaging the insulation.

### Chipboard floor finish

A VCL should be laid over the Celotex insulation boards and turned up 100mm at room perimeters, behind the skirting. It is recommended good practice that all joints should be lapped 150mm and sealed.

The chipboard must be minimum 18mm tongued and grooved flooring grade type C4 to BS 5669. Lay the chipboard with staggered joints, glued with a woodworking adhesive.

Provide a 10mm–12mm gap at all perimeters and abutments to allow for expansion. This can be achieved by the use of temporary wedges.

Where chipboard is butted together without a tongued and grooved joint and all external doorways (for the width of the threshold), a treated timber batten must be used in lieu of the insulation boards.

cont...



## FR5000 Beam and Block Floor Applications

Floor Insulation

**Celotex**  
Insulation Specialists

### Certifications and Accreditations

Celotex FR5000 is covered by BBA Agreement Certificate No 95/3197. To download a copy of this certificate, visit the 'literature' pages of the website at [celotex.co.uk](http://celotex.co.uk)

### Further Information

If you wish to contact Celotex, please visit [celotex.co.uk](http://celotex.co.uk) and click on the 'contact us' page.

For information regarding **storage, installation and handling** of Celotex products, or for **Health and Safety** advice, please refer to the 'literature' pages of the website at [celotex.co.uk](http://celotex.co.uk)

Celotex has a policy of continuous product development and reserves the right to alter product designs or specifications without prior notice.