



## Concrete Soffit Floor Applications

Floor Insulation

**Celotex**  
Insulation Specialists

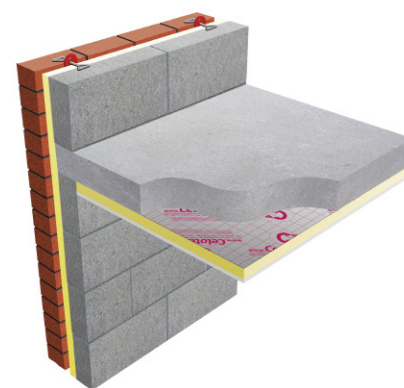
### Introduction

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** PIR insulation in concrete soffit floor applications 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
- Super low emissivity with Celotex IQ, delivering some of the highest performing rigid board insulation solutions
- An A+ rating when compared to the BRE Green Guide
- Class O fire performance throughout the entire product
- A lighter weight solution than other insulation options
- Tightly butted joints for installation continuity
- Provides long term energy savings for buildings



Celotex FR5000 under concrete soffit

### 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)



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### Example U-value Calculation: Concrete Soffit Floors

Construction		Exposed Insulation Thickness (mm)	Protected Insulation Thickness (mm)
Inside surface resistance		-	-
Concrete, dense		150	150
Variable layer		See below	See below
Cavity (low emissivity) 25 x 50mm timber battens @ 600 ctrs		n/a	25
Cementitious board		n/a	12.5
Outside surface resistance		-	-
Celotex Product	Thickness (mm)	U-value (W/m <sup>2</sup> K)	U-value (W/m <sup>2</sup> K)
Celotex FR5000	70	-	0.24
Celotex FR5000	75	-	0.23
Celotex FR5000	80	-	0.22
Celotex FR5000	90	0.23	0.20
Celotex FR5000	100	0.21	0.18
Celotex FR5000	120	0.18	0.16
Celotex FR5000	150	0.14	0.13

U-value  
For U-values see variable layer list, or for more options, refer to our online U-value calculator at [celotex.co.uk](http://celotex.co.uk)

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## Installation Guidelines

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

### Installation guidelines for direct fixing to concrete soffit

- It is recommended that the Celotex insulation boards are installed with joints break-bonded.
- Directly fix Celotex insulation to concrete soffit. Fixings should be evenly laid out with a minimum of 12 fixings per 1200mm x 2400mm board.
- Fixings should be installed between 50mm-150mm from the edge and corners of the board. Suitable fixings should comprise a screw type suitable for the concrete deck into which it is being driven, combined with a circular or rectangular plate washer having a surface area of not less than 45cm<sup>2</sup>. Advice on suitable fixings should be sought directly from the fixing manufacturer.

Please note that the foil facer of the Celotex insulation is not intended to provide a decorative finish. Where additional protection is required please follow the installation guidelines shown below.

### Installation guidelines using cementitious board for additional protection

- It is recommended that the Celotex insulation boards are laid with joints break-bonded.
- Directly fix Celotex insulation and 25mm x 50mm timber fixing battens to concrete soffit. The timber battens should be fixed underneath the layer of Celotex insulation. Ensure that the timber fixing battens are secured at maximum 600mm centres and that the fixings through into the concrete soffit are also at 600mm centres.
- Fixings should be installed between 50mm-150mm from the edge and corners of the board. Suitable fixings should comprise a screw type suitable for the concrete deck into which it is being driven. Advice on suitable fixings should be sought directly from the fixing manufacturer.
- To provide additional protection, fix a layer of cementitious board to the timber battens using suitable fixings.

## 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.