FR5000 Ventilated Lead Covering Applications

Flat Roof Insulation

Celotex
Insulation Specialists

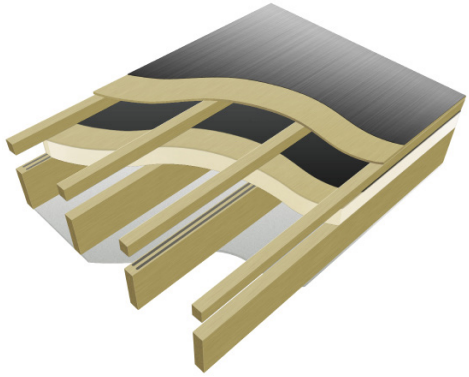
Introduction

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 in ventilated, lead covered, warm roof 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
- An A+ rating when compared to the BRE Green Guide
- Class O fire performance throughout the entire product
- Provides reliable long term energy savings for buildings
- Ideal for use in occasionally trafficked applications
- Warm roof construction due to over joist installation
- Rapidly installed and weatherproofed



Ventilated lead covered flat roof using Celotex FR5000

Celotex FR5000 Technical Data

Product Code	Thickness (mm)	R-value (m²K/W)	Weight (kg/m²)
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

celotex
zero carbon

iQ Super low emissivity

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Example U-value Calculation: Warm Flat Roof - Ventilated Lead Cover

Construction	Thickness (mm)	
Outside surface resistance	-	
Code 5 lead	2.2	
Plywood	12	
Ventilated cavity between battens/firrings	50	
Variable layer (over studs)	See below	
Polythene 1000 gauge, VCL	n/a	
Plywood	n/a	
Cavity between joist @ 400 ctrs - 11.7%	150	
Plasterboard	12.5	
Inside surface resistance	-	
Celotex Product - Variable layer	Thickness (mm)	U-value (W/m^2K)
Celotex FR5000	90	0.24
Celotex FR5000	100	0.22
Celotex FR5000	120	0.19
Celotex FR5000	150	0.16

U-value
For U-values see **variable layer list,** or for more options, refer to our online calculator at celotex.co.uk

Installation Guidelines (using Celotex FR5000)

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

- Ensure that joist spacing is at no more than 600mm centres and that the dimension of the joist is sufficient to span and accept additional loads. If asphalt weathering is to be used, joists should be at no more than 400mm centres.
- Install the insulation boards, ensuring that the long edges are parallel to the line of the joists. 50mm x 50mm cross noggins should be inserted between joists to support the short edges of the boards.
- Where boards butt together, bed into twin beads of vapour sealant wide enough to accommodate this arrangement. This completes the vapour control layer (VCL) when combined with each board's foil facings.
- Lay the boards with the plywood side uppermost and stagger board joints. Leave a gap of approximately 2mm between boards and ensure a minimum 20mm bearing on joists and noggins.
- Fix Celotex FR5000 with corrosion-proof Suretwist Composite Panel helical fasteners at a frequency to suit the design wind load. Refer to BS 6399-2 Code of Practice for Wind Loads. As a guide, 16 fasteners per board will resist a wind load of 2.22 KN/m2 based on a design load of 0.4KN per fastener.

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Installation Guidelines (cont)

- Ensure that fixings are no less than 10mm in from the board edge or 50mm from each corner. They should be equally spaced along the supporting joists. Fixings should be long enough to penetrate at least 38mm into the supporting timber.
- Stagger opposing fixings where two board edges share the same joist or noggin.
- Provide a complete insulation envelope by extending the wall insulation board up to the underside of the roof deck.
- Provide a soffit or ceiling below the joists, as the surface of the product is not designed to be used as a decorative internal finish.
- Ventilation should be provided to reduce the risk of condensation. Lay 50mm x 50mm counter battens to the top of the Celotex FR5000, allow 25mm continuous gap at opposite sides of the roof to allow free flow ventilation beneath the lead deck. Ventilation is in accordance with the Lead Sheet Association's recommendations.
- Lay 12mm plywood on the top of the counter battens and screw fix into place.
- Lay underlay on the plywood using either a polyester geotextile felt 200g/m2 to 220g/m2 or building paper to BS1521 Class A.
- Install lead sheet in accordance with the Lead Sheet Association's recommendations.

Certification and Accreditations

Celotex FR5000 is covered by BBA Agrement Certificate No 95/3197 & 09/4667. To download a copy of this certificate, visit the 'literature' pages of the website at celotex.co.uk

Further Information

If you wish to contact Celotex , please visit 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

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

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