

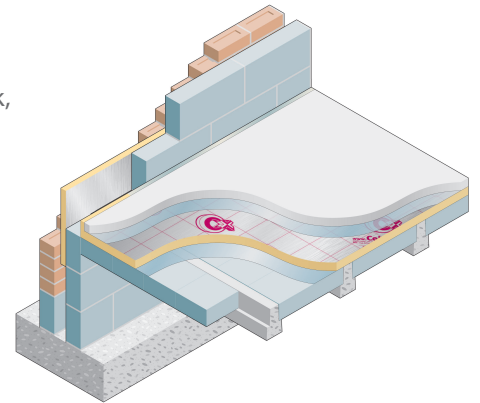
Beam and block floor applications

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 TB3000**, **Celotex GA3000**, **Celotex XR3000** and **Celotex FF3000** high performance thermal insulation in beam and block floors to minimise insulation thickness and give the following benefits:

- Conveniently sized boards for handling indoors
- 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 GA3000 in a beam and block floor with screed

Celotex TB3000 Technical Data

Product Code	Thickness (mm)	R-value (m ² K/W)	Weight (kg/m ²)
TB3012	12	0.50	0.50
TB3020	20	0.85	0.72
TB3025	25	1.05	0.85
TB3030	30	1.30	0.98
TB3035	35	1.50	1.11
TB3040	40	1.70	1.26
TB3045	45	1.95	1.40

Celotex GA3000 Technical Data

Product Code	Thickness (mm)	R-value (m ² K/W)	Weight (kg/m ²)
GA3050	50	2.15	1.55
GA3055	55	2.35	1.70
GA3060	60	2.60	1.88
GA3065	65	2.80	2.03
GA3070	70	3.00	2.17
GA3075	75	3.25	2.32
GA3080	80	3.45	2.46
GA3090	90	3.90	2.74
GA3100	100	4.30	3.28

Sustainable Insulation

Celotex PIR insulation has been independently assessed by BRE Global and has been accredited with an A+ rating in the 2008 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 XR3000 Technical Data

Product Code	Thickness (mm)	R-value (m ² K/W)	Weight (kg/m ²)
XR3110	110	4.75	3.59
XR3120	120	5.20	3.89
XR3130	130	5.65	4.20
XR3140	140	6.05	4.50
XR3150	150	6.50	4.81
XR3165	165	7.15	5.51
XR3200	200	8.65	6.63

Celotex FF3000 Technical Data

Product Code	Thickness (mm)	R-value (m ² K/W)	Weight (kg/m ²)
FF3050	50	2.15	1.82
FF3070	70	3.00	2.45
FF3075	75	3.25	2.61
FF3085	85	3.65	2.93
FF3090	90	3.90	3.09
FF3100	100	4.30	3.43
FF3125	125	5.40	4.23
FF3150	150	6.50	5.03

U-value Ready Reckoner: 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
TB3000	12	0.23	-	-	-	-	-	-	-	-	-
TB3000	20	0.21	-	-	-	-	-	-	-	-	-
TB3000	25	0.20	-	-	-	-	-	-	-	-	-
TB3000	30	0.20	-	-	-	-	-	-	-	-	-
TB3000	35	0.19	-	-	-	-	-	-	-	-	-
TB3000	40	0.18	0.24	-	-	-	-	-	-	-	-
TB3000	45	0.17	0.23	-	-	-	-	-	-	-	-
GA3000 / FF3000	50	0.17	0.22	0.25	-	-	-	-	-	-	-
GA3000	55	0.16	0.21	0.24	0.25	-	-	-	-	-	-
GA3000	60	0.16	0.20	0.22	0.24	0.25	-	-	-	-	-
GA3000	65	0.15	0.19	0.21	0.23	0.24	0.24	0.25	0.25	-	-
GA3000 / FF3000	70	0.15	0.19	0.20	0.22	0.23	0.23	0.24	0.24	0.24	0.24
GA3000 / FF3000	75	0.14	0.18	0.20	0.21	0.21	0.22	0.22	0.23	0.23	0.23
GA3000	80	0.14	0.17	0.19	0.20	0.21	0.21	0.21	0.22	0.22	0.22
FF3000	85	0.13	0.17	0.18	0.19	0.20	0.20	0.20	0.21	0.21	0.21
GA3000 / FF3000	90	0.13	0.16	0.17	0.18	0.19	0.19	0.20	0.20	0.20	0.19
GA3000 / FF3000	100	0.12	0.15	0.16	0.17	0.17	0.18	0.18	0.18	0.18	0.17
XR3000	110	0.12	0.14	0.15	0.16	0.16	0.16	0.17	0.17	0.17	0.17
XR3000	120	0.11	0.13	0.14	0.15	0.15	0.15	0.16	0.16	0.16	0.16
FF3000	125	0.11	0.13	0.14	0.14	0.15	0.15	0.15	0.15	0.15	0.15
XR3000	130	0.11	0.12	0.13	0.14	0.14	0.14	0.15	0.15	0.15	0.15
XR3000	140	0.10	0.12	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.14
XR3000 / FF3000	150	0.10	0.11	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.13
XR3000	165	0.09	0.10	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.12
XR3000	200	0.08	0.09	0.09	0.10	0.10	0.10	0.10	0.10	0.10	0.10

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

Enhanced Performance Requirements

For enhanced performance requirements, use Celotex FR4000 or CG4000. Offering a consistent lambda of 0.022 W/mK throughout the range and with Class O fire performance these two products offer premium performance for higher specification projects. For more information visit the website at celotex.co.uk

Installation Guidelines

- 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 Celotex TB3020 boards as upstands to fit around floor perimeters to eliminate thermal bridging at screed edges. The upstand depth should be equal to the screed thickness. The upstand thickness should not exceed the combined thickness of the wall plaster and the skirting.
- 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.

Certifications and Accreditations

Celotex products TB3000, GA3000, XR3000 and FF3000 are 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

Further Information

If you wish to contact Celotex, please visit celotex.co.uk and click on the 'contact us' page.

For information regarding storage 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.

*Calls to the Celotex Technical Centre are charged at 30p per minute from a BT landline and lines are open Monday - Friday from 8.00am - 5.15pm. Details are correct at date of publication - January 2009.

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