



Suspended Timber Floor Applications

Floor Insulation

Celotex
Insulation Specialists

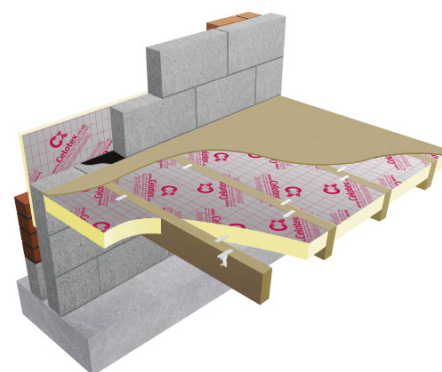
Introduction

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 GA4000** or **Celotex XR4000** high performance thermal insulation in suspended timber floor applications to minimise insulation thickness and give the following benefits:

- Quick and easy to install insulation between joists in one layer
- Boards permanently retained by Celotex Insulation Clip
- Minimise air leakage by friction fitting the insulation
- Provides reliable long term energy savings for buildings
- Low emissivity foil facers give improved thermal insulation performance within cavity air spaces



Celotex GA4000 in a suspended timber floor

Celotex GA4000 Technical Data

Product Code	Thickness (mm)	R-value (m ² K/W)	Weight (kg/m ²)
GA4050	50	2.25	1.55
GA4055	55	2.50	1.74
GA4060	60	2.70	1.90
GA4065	65	2.95	2.05
GA4070	70	3.15	2.19
GA4075	75	3.40	2.34
GA4080	80	3.60	2.48
GA4085	85	3.85	2.62
GA4090	90	4.05	2.76
GA4100	100	4.50	3.27

Celotex XR4000 Technical Data

Product Code	Thickness (mm)	R-value (m ² K/W)	Weight (kg/m ²)
XR4110	110	5.00	3.58
XR4120	120	5.45	3.88
XR4130	130	5.90	4.19
XR4140	140	6.35	4.49
XR4150	150	6.80	4.79
XR4165	165	7.50	5.43
XR4200	200	9.05	6.53



For premium performance including Class O fire performance Celotex FR5000 is suitable for this application.

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



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Example U-value Calculation: Ground Floor - Suspended Timber

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
GA4000 / FF4000	50	0.18	0.25	-	-	-	-	-	-	-	-
GA4000	55	0.18	0.24	-	-	-	-	-	-	-	-
GA4000	60	0.17	0.23	-	-	-	-	-	-	-	-
GA4000	65	0.17	0.22	0.25	-	-	-	-	-	-	-
GA4000 / FF4000	70	0.17	0.22	0.25	-	-	-	-	-	-	-
GA4000 / FF4000	75	0.16	0.21	0.24	0.25	-	-	-	-	-	-
GA4000	80	0.16	0.20	0.23	0.24	0.25	-	-	-	-	-
GA4000 / FF4000	85	0.15	0.20	0.22	0.24	0.25	0.25	-	-	-	-
GA4000 / FF4000	90	0.15	0.19	0.21	0.23	0.24	0.24	0.25	0.25	-	-
GA4000 / FF4000	100	0.14	0.18	0.20	0.21	0.22	0.23	0.23	0.24	0.24	0.24
XR4000	110	0.14	0.17	0.19	0.20	0.21	0.21	0.22	0.22	0.22	0.23
XR4000	120	0.13	0.16	0.18	0.19	0.20	0.20	0.20	0.21	0.21	0.21
XR4000	130	0.13	0.16	0.17	0.18	0.19	0.19	0.19	0.20	0.20	0.20
XR4000	140	0.12	0.15	0.16	0.17	0.18	0.18	0.18	0.18	0.19	0.19
XR4000	150	0.12	0.14	0.16	0.16	0.17	0.17	0.17	0.18	0.18	0.18
XR4165	165	0.11	0.14	0.15	0.15	0.16	0.16	0.16	0.316	0.16	0.17
XR4200	200	0.10	0.12	0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.14

Based on timber joists @ 400 ctrs

U-value

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

- Install joists in the conventional manner, with solid or diagonal strut bracing as necessary. (N.B. diagonal bracing may lead to thermal bridging).
- The **Celotex Insulation Clip** is designed to allow insulation boards to be installed between timber joists quickly and without nails or screws.
- Either fit the clips at one metre maximum centres along the edge of the insulation (as described in the **Celotex Insulation Clip** datasheet) or fix battens to the sides of the joists to support the insulation.
- Use the **Celotex Insulation Saw** to cut the boards to achieve a tight fit, then push the boards firmly down between the joists. The insulation clip will ensure a friction fit.
- Insulate gaps between the joists and walls to prevent thermal bridging.
- Install either chipboard or softwood floor boarding directly onto the joists.
- Ensure that the void below the insulation is ventilated.

Exposed floors (other than ground)

- For exposed or semi-exposed floors, e.g. garage or car port ceilings, it may be easier to insulate from below.
- Fix Celotex insulation boards directly to the underside of the joists with galvanised clout nails at 400mm maximum centres. Finish with an appropriate fire protection board fixed to the soffit.
- An additional layer of 100mm mineral wool insulation can be installed between the joists, supported by the soffit lining, to provide acoustic insulation.

Certifications and Accreditations

Celotex products GA4000 and XR4000 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, 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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