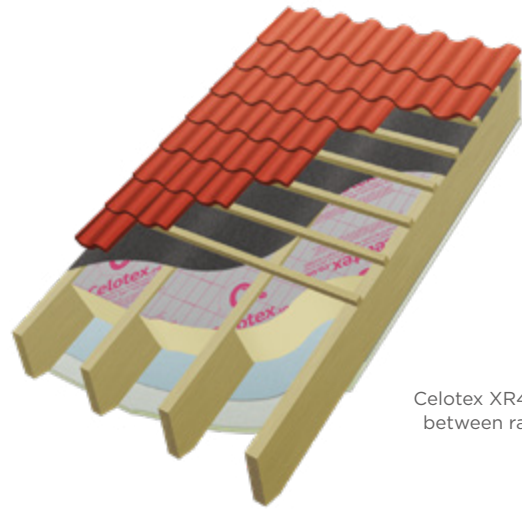


Use [Celotex GA4000](#) or [Celotex XR4000](#) high performance thermal insulation in between rafter applications to minimise insulation thickness and give the following benefits:

- Optional single-layer insulation reduces cutting
- Provides reliable long term energy savings for buildings
- Easy to dry line with plasterboard once installed
- Dimensionally stable
- No loss of internal headroom
- Ideal for loft conversions/room in roof applications



Celotex XR4000 between rafters

Celotex GA4000 Technical Data

Thickness (mm)	R-value (m ² K/W)	Maximum Board Weight (kg/m ²)
GA4050	2.25	1.92
GA4060	2.70	2.26
GA4070	3.15	2.61
GA4075	3.40	2.78
GA4080	3.60	2.96
GA4090	4.05	3.31
GA4100	4.50	4.15

Celotex XR4000 Technical Data

Thickness (mm)	R-value (m ² K/W)	Maximum Board Weight (kg/m ²)
XR4110	5.00	4.54
XR4120	5.45	4.93
XR4130	5.90	5.32
XR4140	6.35	5.71
XR4150	6.80	6.10
XR4165	7.50	6.69
XR4200	9.05	8.06

For product information for your project, please contact either our [technical team](#) or our [specification team](#).



We have an experienced team of energy assessors who can carry out SAP calculations, water calculations, airtightness testing and much more. [Contact us](#).



Celotex presents a comprehensive range of thermal bridging models featuring our PIR insulation products. This tool helps you identify the build-up required to reduce heat loss through a typical junction of elements or at openings. [Sign up now](#).

Example U-value calculation: Un-ventilated between rafters

Construction	200 deep rafters Thickness (mm)	175 deep rafters Thickness (mm)	150 deep rafters Thickness (mm)	
Outside surface resistance	-	-	-	
Tiling including batten space	-	-	-	
Breather membrane	-	-	-	
Low emissivity cavity, remainder of rafter depth	Various	Various	Various	
Variable layer (for between rafters)	See below	See below	See below	
Polythene 1000 gauge, VCL	-	-	-	
Plasterboard	12.5	12.5	12.5	
Inside surface resistance	-	-	-	
Variable Layer	Thickness (mm)	U-value (W/m ² K)	U-value (W/m ² K)	U-value (W/m ² K)
Celotex XR4000 @ 400 ctrs	140	0.20	0.21	-
Celotex XR4000 @ 400 ctrs	150	0.19	0.20	-
Celotex XR4000 @ 400 ctrs	165	0.18	0.19*	-
Celotex XR4000 @ 400 ctrs	200	0.17*	-	-
Celotex XR4000 @ 600 ctrs	130	0.20	0.20	0.20
Celotex XR4000 @ 600 ctrs	140	0.19	0.19	0.20*
Celotex XR4000 @ 600 ctrs	150	0.18	0.18	0.20*
Celotex XR4000 @ 600 ctrs	200	0.15*	-	-

U-value

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

*Counter batten over membrane - see guidelines below

Installation Guidelines

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

- Make sure there is enough rafter depth to accommodate not only the thickness of the Celotex insulation, but also a minimum 20mm drapage space for the breathable membrane.
- Fix battens to the inside face of the rafters, to ensure that the drapage space is maintained.
- Alternatively, counter battens can be fixed over the breathable membrane to provide a channel for moisture run off. The whole depth of the rafter can then be filled with insulation.
- All details are to be in accordance with the membrane manufacturer's details.
- Measure the space to be filled between the inside face of the rafter prior to cutting the board.
- Use the Celotex Insulation Saw to cut the boards at a slight angle, making the board width slightly oversized on one surface to achieve a 'friction fit'.
- Push the boards into the void between the rafters until they are tight up to the battens or the membrane, ensuring that lateral joints are closely butted.
- Tightly fit the insulation to the ridge plate and carry over and tightly butt the wall plate at eaves.
- A vapour control layer (VCL) should be installed to the underside of the rafters. A polythene sheet of higher vapour resistance is recommended for high humidity areas such as kitchens or bathrooms.
- Complete the internal finish with plasterboard or other suitable sheet material.

Where building regulation approval is required, you should take advice from your local building control authority and the building designer.

Certifications and accreditations

Celotex products GA4000 and XR4000 are covered by BBA Agrément Certificate No [17/5405](#). To download a copy of this certificate, visit the 'literature' pages on our website.

Further information

If you wish to contact Celotex, please do so through the ['contact us'](#) page on our website. For information regarding storage, installation and handling of Celotex products, or for health & safety information, please refer to our online 'literature' pages.

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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