

Use [Celotex GA4000](#) and [Celotex PL4000](#) high performance thermal insulation in loft conversions to minimise insulation thickness and give the following benefits:

- Create additional, highly thermal efficient living space
- Provides reliable long term energy and cost savings
- Loft conversions deliver multiple energy efficient measures within one project



Celotex GA4000
in an attic wall
application

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

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

Celotex PL4000 Technical Data

Thickness (mm)	R-value (m ² K/W)	Maximum Board Weight (kg/m ²)
PL4015 + 12.5 [†]	0.70 [‡]	9.69 [‡]
PL4025 + 12.5 [†]	1.20 [‡]	9.99 [‡]
PL4040 + 12.5 [†]	1.85 [‡]	10.46 [‡]
PL4050 + 12.5 [†]	2.30 [‡]	10.96 [‡]
PL4060 + 12.5 [†]	2.75 [‡]	11.31 [‡]
PL4065 + 12.5 [†]	3.00 [‡]	11.48 [‡]

[†] 12.5mm tapered edge plasterboard is laminated to the insulation thickness

[‡] insulation component only



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: Attic Walls

Construction		Thickness (mm)
Outside surface resistance		-
Tiling including batten space		-
Breather membrane		-
Roof void		-
Celotex GA4000 between studs		80
Cavity (low emissivity) between studwork		20
Variable layer		See below
Board joints sealed to form vapour barrier		-
Inside surface resistance		-
Variable Layer	Thickness (mm)	U-value (W/m ² K)
Celotex PL4000	15 + 12.5 †	0.26
Celotex PL4000	25 + 12.5 †	0.23
Celotex PL4000	40 + 12.5 †	0.20
Celotex PL4000	50 + 12.5 †	0.18
Celotex PL4000	60 + 12.5 †	0.17
Celotex PL4000	65 + 12.5 †	0.16

† 12.5mm tapered edge plasterboard is laminated to the insulation thickness

U-value

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

Installation Guidelines

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

- Celotex GA4000 is cut and friction fitted between timber frame flush with the back of the studwork leaving a 20mm gap in front for services.
- Celotex PL4000 is mechanically fixed to the inside face of the studwork. Secure Celotex PL4000 with suitable mechanical fixings. Fixing details should be in accordance with the fixing manufacturer's instructions.
- Joints between the boards should be tightly butted and finished by taping and jointing using appropriate tape and jointing material to create the VCL.

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](#) and [16/5357](#) 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.

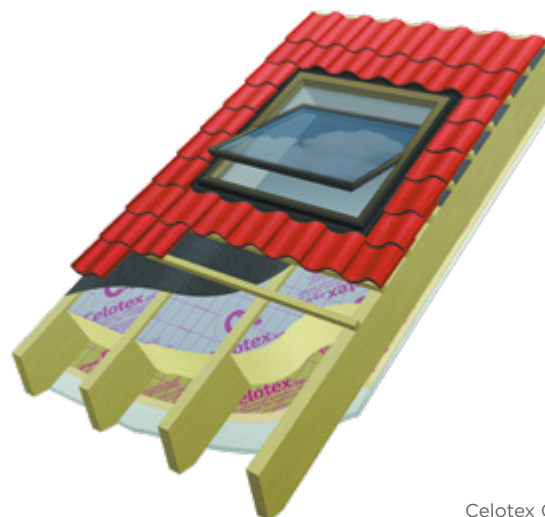
Celotex has a policy of continuous product development and reserves the right to alter product designs or specifications without prior notice.

Saint-Gobain Construction Products UK Limited trading as Celotex. Registered Office: Saint-Gobain House, Binley Business Park, Coventry CV3 2TT. Registered in England and Wales No 734396

Loft Conversions - Between and Under Rafters

Use a combination of [Celotex GA4000](#) or [Celotex XR4000](#) with [Celotex PL4000](#) high performance plasterboard thermal laminate in pitched roof [between and under rafter applications](#) to minimise insulation thickness and give the following benefits:

- Provides both the below rafter insulation and plasterboard in one product helping reduce installation time
- Offers the installer maximum flexibility and installation speed due to the tapered edge plasterboard
- Ideal for use with shallow rafters
- Provides reliable long term energy savings for buildings
- Minimised additional loading to the structure
- Dimensionally stable
- Ideal for loft conversions / room in roof applications
- Upgrade existing ceilings to current standards



Celotex GA4000
and PL4000

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

Celotex PL4000 Technical Data

Thickness (mm)	R-value (m ² K/W)	Maximum Board Weight (kg/m ²)
PL4015 + 12.5 [†]	0.70 [‡]	9.69 [‡]
PL4025 + 12.5 [†]	1.20 [‡]	9.99 [‡]
PL4040 + 12.5 [†]	1.85 [‡]	10.46 [‡]
PL4050 + 12.5 [†]	2.30 [‡]	10.96 [‡]
PL4060 + 12.5 [†]	2.75 [‡]	11.31 [‡]
PL4065 + 12.5 [†]	3.00 [‡]	11.48 [‡]

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

[†] 12.5mm tapered edge plasterboard is laminated to the insulation thickness

[‡] insulation component only



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: Ventilated Between and Under Rafters

Construction	100 deep rafters Thickness (mm)	125 deep rafters Thickness (mm)	150 deep rafters Thickness (mm)	175 deep rafters Thickness (mm)	
Outside surface resistance	-	-	-	-	
Tiling including batten space	-	-	-	-	
Sarking felt	-	-	-	-	
Ventilated cavity	50	50	50	50	
Celotex between rafters @ 400 ctrs (11.7% brg)	GA4050	GA4075	GA4100	XR4120	
Variable layer (for below rafters)	See below	See below	See below	See below	
Board joints taped for VCL	-	-	-	-	
Plaster skim	-	-	-	-	
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)	U-value (W/m ² K)
Celotex PL4000	25 + 12.5 [†]	-	-	-	0.19
Celotex PL4000	40 + 12.5 [†]	-	-	0.19	0.17
Celotex PL4000	50 + 12.5 [†]	-	0.20	0.17	0.15
Celotex PL4000	60 + 12.5 [†]	-	0.18	0.16	0.14
Celotex PL4000	65 + 12.5 [†]	0.20	0.17	0.15	0.14

[†] 12.5mm tapered edge plasterboard is laminated to the insulation thickness

U-value

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

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 50mm ventilated airspace above the boards.
- Fix battens to the inside face of the rafter so that the bottom of the batten is 50mm below the sarking felt.
- 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. Secure Celotex PL4000 to the underside of the rafters with suitable mechanical fixings. Fixing details should be in accordance with the fixing manufacturer's instructions.
- Joints between boards must be tightly butted, taped and jointed using appropriate tape and jointing material to create the vapour control layer.

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](#) and [16/5357](#) 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.

Saint-Gobain Construction Products UK Limited trading as Celotex. Registered Office: Saint-Gobain House, Binley Business Park, Coventry CV3 2TT. Registered in England and Wales No 734396

Example U-value calculation: Un-ventilated Between and Under Rafters

Construction	100 deep rafters Thickness (mm)	125 deep rafters Thickness (mm)	150 deep rafters Thickness (mm)	175 deep rafters Thickness (mm)	
Outside surface resistance	-	-	-	-	
Tiling including batten space	-	-	-	-	
Breather membrane	-	-	-	-	
Low emissivity cavity, between rafters (11.7% brg)	20	25	30	25	
Celotex between rafters @ 400 ctrs (11.7% brg)	GA4080	GA4100	XR4120	XR4150	
Variable layer (for below rafters)	See below	See below	See below	See below	
Board joints taped for VCL	-	-	-	-	
Plaster skim	-	-	-	-	
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)	U-value (W/m ² K)
Celotex PL4000	15 + 12.5 [†]	-	-	0.19	0.17
Celotex PL4000	25 + 12.5 [†]	-	0.20	0.17	0.15
Celotex PL4000	40 + 12.5 [†]	0.19	0.17	0.15	0.14
Celotex PL4000	50 + 12.5 [†]	0.18	0.16	0.14	0.13
Celotex PL4000	60 + 12.5 [†]	0.16	0.15	0.13	0.12
Celotex PL4000	65 + 12.5 [†]	0.16	0.14	0.13	0.12

[†] 12.5mm tapered edge plasterboard is laminated to the insulation thickness

U-value

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

Installation Guidelines

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

- Install the breather membrane over the rafters. Fix battens to the side of the rafters to allow the membrane to sag between the rafters. Alternatively, fix counter battens over the membrane, leaving the entire rafter depth to be filled with insulation. All details are to be in accordance with the membrane manufacturer's recommendations.
- 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. Secure Celotex PL4000 to the underside of the rafters with suitable mechanical fixings. Fixing details should be in accordance with the fixing manufacturer's instructions.
- Joints between boards must be tightly butted, taped and jointed using appropriate tape and jointing material to create the vapour control layer.

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](#) and [16/5357](#) 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.

Saint-Gobain Construction Products UK Limited trading as Celotex. Registered Office: Saint-Gobain House, Binley Business Park, Coventry CV3 2TT. Registered in England and Wales No 734396

Use a combination of [Celotex GA4000](#) or [Celotex XR4000](#) with [Celotex PL4000](#) high performance plasterboard thermal laminate insulation in [loft conversions](#) to minimise insulation thickness and give the following benefits:

- Create additional, highly thermal efficient living space
- A perfect solution to upgrade older buildings
- Provides reliable long term energy savings for buildings
- Loft conversions deliver multiple energy efficient measures within one project



Celotex GA4000 in a horizontal ceiling

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

Celotex PL4000 Technical Data

Thickness (mm)	R-value (m ² K/W)	Maximum Board Weight (kg/m ²)
PL4015 + 12.5 [†]	0.70 [‡]	9.69 [‡]
PL4025 + 12.5 [†]	1.20 [‡]	9.99 [‡]
PL4040 + 12.5 [†]	1.85 [‡]	10.46 [‡]
PL4050 + 12.5 [†]	2.30 [‡]	10.96 [‡]
PL4060 + 12.5 [†]	2.75 [‡]	11.31 [‡]
PL4065 + 12.5 [†]	3.00 [‡]	11.48 [‡]

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

[†] 12.5mm tapered edge plasterboard is laminated to the insulation thickness
[‡] insulation component only



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: Horizontal Ceiling

Construction		100 deep joists Thickness (mm)	150 deep joists Thickness (mm)
Outside surface resistance		-	-
Tiling including batten space		-	-
Loft Space		-	-
Celotex between joists @ 400 ctrs		GA4090	XR4140
Variable layer (for below joists)		See below	See below
Board joints sealed to form VCL		-	-
Plaster skim		-	-
Inside surface resistance		-	-
Variable Layer	Thickness (mm)	U-value (W/m ² K)	U-value (W/m ² K)
Celotex PL4000	15 + 12.5 [†]	-	0.18
Celotex PL4000	25 + 12.5 [†]	-	0.16
Celotex PL4000	40 + 12.5 [†]	0.19	0.14
Celotex PL4000	50 + 12.5 [†]	0.17	0.13
Celotex PL4000	60 + 12.5 [†]	0.16	0.12
Celotex PL4000	65 + 12.5 [†]	0.15	0.12

[†] 12.5mm tapered edge plasterboard is laminated to the insulation thickness

U-value

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

Installation Guidelines

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

- Celotex GA4000 or XR4000 is cut and friction fitted between horizontal ceiling joists which form the flat ceiling of the new loft room.
- Celotex PL4000 is mechanically fixed to the underside of the joists with suitable fixings. Specific advice on suitable fixings should be sourced directly from the fixing manufacturer.
- Joints between the boards should be tightly butted and finished by taping and jointing using appropriate tape and jointing material to create the VCL.

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](#) and [16/5357](#) 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.

Saint-Gobain Construction Products UK Limited trading as Celotex. Registered Office: Saint-Gobain House, Binley Business Park, Coventry CV3 2TT. Registered in England and Wales No 734396