



Solid Masonry Wall - External Applications

Wall Insulation

Celotex
 Insulation Specialists

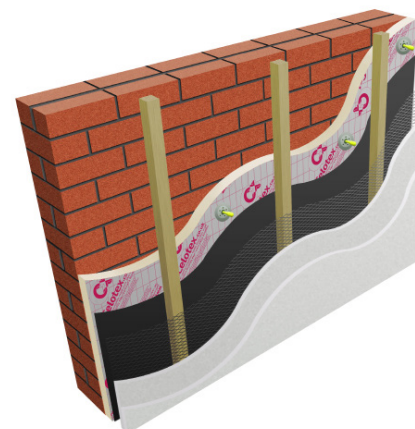
Introduction

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** and **Celotex XR4000** high performance thermal insulation in external solid masonry wall applications to minimise insulation thickness and give the following benefits:

- Reduces thermal bridges formed by mortar joints
- Ideal where no wall cavity exists
- Provides reliable long term energy savings for buildings
- Particularly suited to refurbishment projects
- Saves internal room space



Celotex GA4000

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

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



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

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Example U-value Calculation: Between and Over Rafters

Construction	Thickness (mm)	
Outside surface resistance	-	
Softwood weatherboarding	19	
Cavity (ventilated)	-	
Breather membrane	-	
Variable layer	See below	
Brickwork	215	
Plaster, lightweight	13	
Inside surface resistance	-	
Variable layer	Thickness (mm)	U-value (W/m ² K)
Celotex GA4000	60	0.30
Celotex GA4000	65	0.28
Celotex GA4000	70	0.26
Celotex GA4000	75	0.25
Celotex GA4000	80	0.24
Celotex GA4000	85	0.22
Celotex GA4000	90	0.21
Celotex GA4000	100	0.19
Celotex XR4000	110	0.18
Celotex XR4000	120	0.16
Celotex XR4000	130	0.15
Celotex XR4000	140	0.14
Celotex XR4000	150	0.13
Celotex XR4000	165	0.12
Celotex XR4000	200	0.10

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.

- Prior to the installation of Celotex insulation boards, the substrate must be checked for soundness.
- Large, uneven projections should be removed and all holes filled and levelled. Loose material should be cleaned off to leave a sound, dry surface.
- Downpipes should be temporarily removed and, if necessary, relocated after completion of installation. Lengthening of overflow pipes should be allowed for, together with extensions to sills.
- Starter batten and drip (for render finish) should be located at least one half brick above the damp proof course and fixed directly to the substrate with plugs and screws.
- The Celotex insulation should be fixed to the substrate using proprietary fasteners, which are driven into pre-drilled holes.
- All insulation board joints should be tightly butted and end joints staggered.
- Fix a breather membrane over the insulation with minimum 100mm laps.
- Apply preservative-treated timber battens vertically over the face of the breather membrane and insulation, secured back to the underlying masonry.

Render finish

- Fix stainless steel expanded metal lathing to the battens. Proprietary systems are available with reinforcing ribs to allow for a full span of 600mm between battens.
- The render system should then be applied in accordance with manufacturer's guidelines.

Tile hanging

- Tilting fillets should be applied at horizontal junctions to suit the design requirements.
- Fix tile battens to vertical battens to suit tile gauge.
- Hang tiles in accordance with manufacturer's instructions.

Other cladding

Timber or other lightweight cladding systems can be fixed to the vertical battens (see example U-value calculation).

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.