



Single Timber Frame Wall Lining and Dormer Cheeks

Wall Insulation

Celotex
 Insulation Specialists

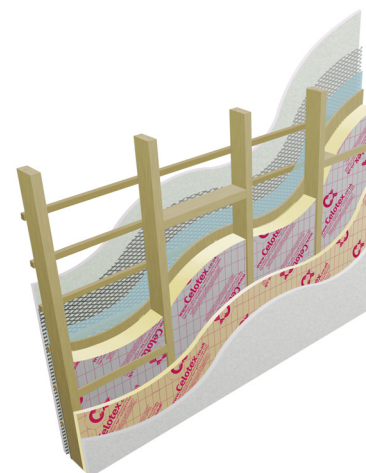
Introduction

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.

Celotex offers two solutions for single timber frame wall lining applications. The first utilises the super low lambda values of **Celotex FR5000** between the studs, followed by an internal lining of **Celotex GD5000 or GS5000** over the studs. This solution provides the thinnest build-up with better thermal insulation. The **Celotex GD5000 or GS5000** provides the over stud insulation and plasterboard in one product; helping reduce installation time.

The second option is to use mineral wool batts fitted between the studs, followed by an internal lining of **Celotex GD5000 or GS5000** over the studs. This solution gives a thicker build-up but offers improved acoustic insulation.



Celotex FR5000 and GD5000/GS5000

Celotex FR5000 Technical Data

Product Code	Thickness (mm)	R-value (m ² K/W)	Weight (kg/m ²)
FR5025	25	1.15	1.01
FR5040	40	1.90	1.49
FR5050	50	2.35	1.81
FR5060	60	2.85	2.16
FR5070	70	3.30	2.48
FR5075	75	3.55	2.64
FR5080	80	3.80	2.80
FR5090	90	4.25	3.12
FR5100	100	4.75	3.38
FR5120	120	5.70	4.02
FR5150	150	7.10	4.98

Celotex GD5000 Technical Data

Product Code	Thickness (mm)	R-value (m ² K/W)	Weight (kg/m ²)
GD5025	25 + 9.5	1.20	7.02
GD5040	40 + 9.5	1.95	7.50
GD5050	50 + 9.5	2.40	7.82
GD5060	60 + 9.5	2.90	8.17

9.5mm tapered edge plasterboard is laminated to the specified insulation thickness

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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Celotex GS5000 Technical Data

Product Code	Thickness (mm)	R-value (m ² K/W)	Weight (kg/m ²)
GS5025	25 + 9.5	1.20	7.20
GS5040	40 + 9.5	1.95	7.68
GS5050	50 + 9.5	2.40	8.00
GS5060	60 + 9.5	2.90	8.35

9.5mm tapered edge plasterboard is laminated to the specified insulation thickness

Example U-value Calculation: Single Timber Frame Wall

Construction	Weatherboarding Thickness (mm)	Tile Hung Thickness (mm)	Rendered Thickness (mm)	Lead Clad Thickness (mm)
Outside surface resistance	-	-	-	-
Weatherboard - Tiles - Rendered - Code 4 Lead	any	any	20	1.8
Ventilated cavity batten air space	25	n/a	25	25
Breather membrane	-	-	-	-
Plywood	12	12	12	12+
Celotex between 100mm studs @ 400 ctrs (11.7% brg) FR5060	FR5060	FR5060	FR5060	FR5060
IQ emissivity cavity between studs @ 400 ctrs (15% brg)	40	40	40	40
Variable layer (for over studs)	See below	See below	See below	See below
Inside surface resistance	-	-	-	-
Celotex Product - Variable layer	Thickness (mm)	U-value (W/m ² K)	U-value (W/m ² K)	U-value (W/m ² K)
Celotex GD/GS5000	25 + 9.5	0.25	0.25	0.25
Celotex GD/GS5000	40 + 9.5	0.21	0.21	0.21
Celotex GD/GS5000	50 + 9.5	0.19	0.19	0.19
Celotex GD/GS5000	60 + 9.5	0.17	0.17	0.17





Installation Guidelines

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

- Make sure all studs and rails are flush, with no projections, and that services are correctly installed.
- Fit Celotex insulation or mineral wool batts tightly in-between all studs and push up to plywood sheathing.
- For optimum thermal performance, the unprinted foil surface should face the air cavity within the studwork.
- Cut boards for infill panels, using off-cuts where possible, making sure there are no air gaps at wall abutments.
- Install Celotex GD5000/GS5000 insulation over the studs.
- Tightly butt edges of boards together, making sure there are no gaps and fix back to solid timber, both at stud lines and at top and bottom rails.
- Joints between the boards must be tightly butted, taped and jointed using appropriate tape and jointing material to create the vapour control layer (VCL).
- Vapour seal all perimeter abutments using sealant.
- Seal around all penetrations for electrical outlets and switch boxes.

NB: Some building insurance companies may require additional third party approval when using insulation in timber frame applications. Advice should be sought from the relevant parties prior to specifying the insulation required. Celotex insulation is covered by BBA certificate number 09/4667.

Certifications and Accreditations

Celotex product FR5000 is covered by BBA Agreement Certificate No 95/3197 & 09/4667. 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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