

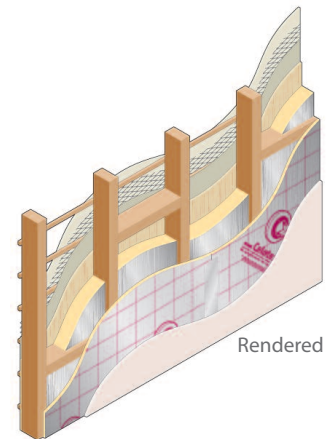
## Single timber frame wall lining and dormer cheeks applications

### 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 its dedicated Technical Support team 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 low lambda values of Celotex GA3000 and Celotex XR3000 between the studs, followed by an internal lining of Celotex TB3000 over the studs. This solution provides for the thinnest build-up with the better thermal insulation.

The second option is to use mineral wool batts fitted between the studs, followed by an internal lining of Celotex TB3000 over the studs. This solution gives a thicker build-up but offers improved acoustic insulation.



### Celotex TB3000 Technical Data

Product Code	Thickness (mm)	R-value (m <sup>2</sup> K/W)	Nominal Weight (kg/m <sup>2</sup> )
TB3012	12	0.50	0.52
TB3020	20	0.85	0.74
TB3025	25	1.05	0.88
TB3030	30	1.30	1.02
TB3035	35	1.50	1.17
TB3040	40	1.70	1.31
TB3045	45	1.95	1.45

### Celotex GA3000 Technical Data

Product Code	Thickness (mm)	R-value (m <sup>2</sup> K/W)	Nominal Weight (kg/m <sup>2</sup> )
GA3050	50	2.15	1.59
GA3055	55	2.35	1.73
GA3060	60	2.60	1.93
GA3065	65	2.80	2.07
GA3070	70	3.00	2.22
GA3075	75	3.25	2.36
GA3080	80	3.45	2.50
GA3090	90	3.90	2.79
GA3100	100	4.30	3.29

### Celotex and Sustainability

Celotex' environmental profile has been independently assessed by the BRE.

The results of this assessment show that Celotex has the lowest environmental impact of any PIR manufacturer.

For a copy of the certificate and for further information on Celotex' position including their new sustainability statement, please visit the sustainability pages of the website at [celotex.co.uk](http://celotex.co.uk)



## Celotex XR3000 Technical Data

Product Code	Thickness (mm)	R-value (m <sup>2</sup> K/W)	Nominal Weight (kg/m <sup>2</sup> )
XR3110	110	4.75	3.60
XR3120	120	5.20	3.90
XR3130	130	5.65	4.21
XR3140	140	6.05	4.51
XR3150	150	6.50	4.82
XR3165	165	7.15	5.52
XR3200	200	8.65	6.64

## Example U-value calculation: single timber frame wall (dormer cheeks)

Construction	Weatherboarding Thickness (mm)	Tile hung Thickness (mm)	Rendered Thickness (mm)	Lead clad Thickness (mm)	
Outside surface resistance	-	-	-	-	
Weather board - Tiles - Trendered - Code 4 lead	any	any	20	1.8	
Ventilated cavity batten air space	25	n/a	n/a	n/a	
Breather membrane	-	-	-	-	
Plywood	12	12	12	12	
Celotex between 100mm studs @ 400 ctrs (15% brg)	GA3065	GA3060	GA3065	GA3070	
Low E Cavity between studs @ 400 ctrs (15% brg)	30	40	30	30	
<b>Variable layer</b> (for over studs)	See below	See below	See below	See below	
Polythene 1000 gauge, VCL	-	-	-	-	
Plasterboard	12.5	12.5	12.5	12.5	
Inside surface resistance	-	-	-	-	
Variable layer	Thickness (mm)	U-value (W/m <sup>2</sup> K)	U-value (W/m <sup>2</sup> K)	U-value (W/m <sup>2</sup> K)	U-value (W/m <sup>2</sup> K)
Celotex TB3000. Joints taped as VCL	12	0.30	0.30	0.30	0.30
Celotex TB3000. Joints taped as VCL	20	0.27	0.27	0.27	0.27
Celotex TB3000. Joints taped as VCL	25	0.25	0.26	0.26	0.25
Celotex TB3000. Joints taped as VCL	30	0.24	0.24	0.24	0.24
Celotex TB3000. Joints taped as VCL	35	0.23	0.23	0.23	0.22
Celotex TB3000. Joints taped as VCL	40	0.21	0.22	0.22	0.21
Celotex TB3000. Joints taped as VCL	45	0.20	0.21	0.21	0.20

### U-value

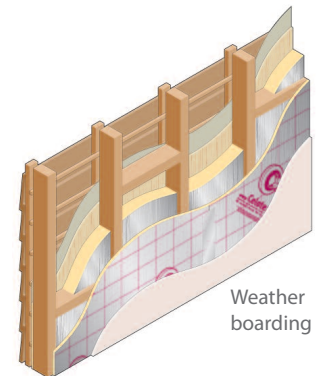
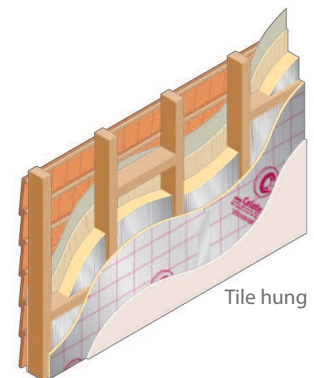
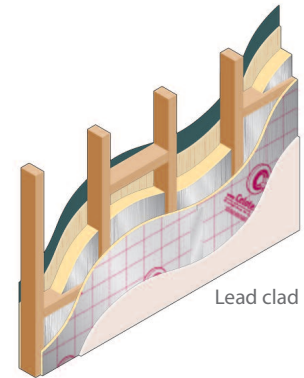
For U-values see **variable layer list**, or for more options, refer to our online U-value calculator at [celotex.co.uk](http://celotex.co.uk)

Low E = Low emissivity

Cont...

## Installation Guidelines

- Make sure all studs and rails are flush, with no projections, and that services are correctly installed.
- Fit mineral wool batts or Celotex insulation 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 a second layer of Celotex insulation over the studs.
- Tightly butt edges of boards together, making sure there are no gaps.
- Temporarily secure the boards with clout nails at 600mm centres. Mark stud lines on board surface as fixing guides for dry lining.
- Always fix back to solid timber, both at stud lines and at top and bottom rails.
- Ensure that all board surfaces are clean and free from dust and then apply Celotex Insulation Tape to seal all joints.
- Seal around all penetrations for electrical outlets and switch boxes.
- Fix plasterboard lining over the Celotex insulation using plasterboard nails or screws of appropriate length and joint and skim to the desired finish.
- No separate vapour check membrane is required in this application. Celotex insulation acts as an effective internal vapour control layer when all joints are sealed.



## Certifications and accreditations

Celotex products TB3000, GA3000 and XR3000 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](http://celotex.co.uk)

## Further information

If you wish to contact Celotex, please visit [celotex.co.uk](http://celotex.co.uk) and click on the 'contact us' page. For information regarding storage and handling of Celotex products, or for Health and Safety advice, please refer to the 'literature' pages of the website at [celotex.co.uk](http://celotex.co.uk)

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

\*Calls to our Technical Advisory Service are charged at 30p per minute from a BT landline and lines are open Monday - Friday from 8.00am - 5.15pm. Details and pricing are correct at date of publication - March 2008.

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