E02 - Independent Concrete Lintel

Superglass Superwhite 34 Blown Cavity Insulation

Date of Issue: September 2026

	Wall Build-up	
	Thickness (mm)	**Thermal Conductivity (W/mK)**
Outer Leaf Brickwork	102.5	0.77
Superglass Superwhite 34 Blown Cavity Insulation	Shown in tables below	
Inner Leaf Blockwork	100	Shown in tables below
Plaster Dabs	15	0.088
Standard Plasterboard	12.5	0.19

Linear Thermal Transmittance (Ψ-value) and Temperature Factor (f-value) calculated for a range of block types and insulation thicknesses.



1. 102.5mm Outer Leaf Brickwork
2. Superglass Superwhite 34 Blown
3. 100mm Inner Leaf Blockwork
4. 15mm Plaster Dabs
5. 12.5mm Standard Plasterboard
6. 45mm Cavity Closer
7. 15mm PIR Insulation

Images for illustration purposes only.

Superwhite 34 Blown Cavity Insulation - 0.034W/mK											
	Insulation & Cavity Thickness	**100mm**		**125mm**		**150mm**		**175mm (100+75mm)**		**200mm (2x100mm)**	
Block Type	**Thermal Conductivity (W/mK)**	**Ψ-value (W/mK)**	**f-value**	**Ψ-value (W/mK)**	**f-value**	**Ψ-value (W/mK)**	**f-value**	**Ψ-value (W/mK)**	**f-value**	**Ψ-value (W/mK)**	**f-value**
Lightweight Aircrete	0.11	0.016	0.965	0.014	0.964	0.015	0.963	0.016	0.962	0.017	0.961
Standard Aircrete	0.15	0.012	0.965	0.012	0.964	0.013	0.963	0.014	0.962	0.015	0.961
High Strength Aircrete	0.19	0.009	0.965	0.010	0.964	0.011	0.963	0.013	0.962	0.015	0.961
Ultra Lightweight Aggregate	0.28	0.006	0.965	0.008	0.964	0.010	0.963	0.012	0.962	0.014	0.961
Medium Dense	0.45	0.004	0.965	0.006	0.964	0.008	0.963	0.011	0.962	0.013	0.961
Dense Concrete	1.13	0.001	0.964	0.004	0.964	0.007	0.964	0.010	0.962	0.012	0.961

The independent lintels are concrete, with a thermal conductivity of 1.33W/mK, and are 215mm high. They are lined with 15mm PIR insulation (thermal conductivity 0.022W/mK) and 12.5mm plasterboard (thermal conductivity 0.19W/mK). The cavity closer consists of 45mm of insulation with a thermal conductivity of 0.026W/mK.

The adiabatic frame is 70mm wide, with a 30mm overlap.

The results have been generated using AutoPsi Thermal Modelling Tool. The calculations have been completed using the methodology outlined in BS EN ISO 10211 and in accordance with BR497 2nd Edition.

Any deviation from the details used as part of this calculation will result in the calculation being inaccurate. To request a copy of a calculation or a different build-up please email technical.stirling@etexgroup.com