BUILDBASE

ISOVER
The world's leading Acoustic and Thermal Insulation

Guide to meeting Part L Thermal Building Regulations.

THERMAL

England and Wales - Part L 2006

New build properties: The required U-value for roof, wall and floor elements will be decided by the designer based on a whole-building computer assessment of carbon emissions (SAP 2005 for dwellings and Simplified Building Energy Model or SBEM for non-dwellings). The U-value can vary depending upon several factors, including air leakage rate and heating fuel type.

Extension work to existing buildings: There are specified U-values for newly constructed elements in an extension.

Scotland - Section 6

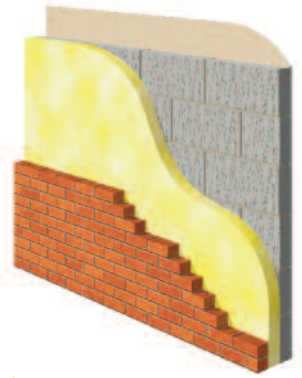
There are two methods of demonstrating compliance, of which the Elemental Method, with stipulated U-values for roof, wall and floor elements, is the simplest. This method is also suitable for extensions.

	England and Wales		Scotland	
Element	ISOVER recommended U-values for new buildings (W/m²K) (1)	Actual U-values for extensions (W/m²K)	Elemental U-values (W/m²K) for new dwellings	Actual U-values (W/m²K) for extensions
Pitched roof-insulation at ceiling level	0.13	0.16	0.16	0.16
Pitched roof-insulation at rafter level	0.20	0.20	0.16	0.20
Walls	0.30 to 0.25	0.30	0.25/0.22(2)	0.27

(1) Likely to give Part L compliance with a sensible balance of other measures.
(2) Depending upon primary heating package.

How to achieve these U-values

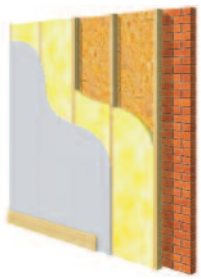
Masonry cavity wall construction



103mm brick outer, full-fill ISOVER insulation, 100mm block, 12.5mm wallboard on dabs

U-value	ISOVER Insulation	Block type
0.30	**85mm Hi-Cav 32**	**Masterblock 3.5N (0.59)**
0.30	**75mm Hi-Cav 32**	**Thermalite Shield (0.15)**
0.29	**100mm CWS**	**Masterblock 3.5N (0.59)**
0.29	**85mm Hi-Cav 32**	**Masterblock Ultra (0.25)**
0.28	**75mm Hi-Cav 32**	**Thermalite Turbo (0.11)**
0.28	**100mm CWS**	**Masterblock Ultra (0.25)**
0.27	**85mm Hi-Cav 32**	**Thermalite Shield (0.15)**
0.26	**85mm Hi-Cav 32**	**Thermalite Turbo (0.11)**
0.25	**100mm Hi-Cav 32**	**Masterblock Ultra (0.25)**
0.24	**100mm Hi-Cav 32**	**Thermalite Shield (0.15)**

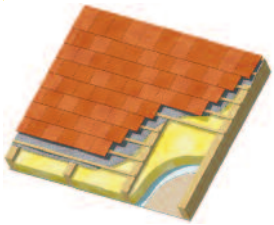
Timber frame wall construction



Stud Size (mm)	ISOVER Product membrane in brickwork cavity	Conventional breather membrane in brickwork cavity	Reflective breather
90	90mm Frame Batt 32	0.38	0.33
140	140mm Frame Batt 43	0.31	0.28
140	140mm Frame Batt 40	0.30	0.27
140	140mm Frame Batt 34	0.28	0.25
140	140mm Frame Batt 32 (90mm + 50mm)	0.27	0.24

With 15% timber fraction, 103mm brick outer and 13mm OSB, 12.5mm Duplex board internally.

Sloping roof construction



U-value	Roof construction
0.20	**222mm Rafter + 2 x 100mm ISOVER Frame Batt 35**

Notes: This construction will also meet Part E Robust Detail requirements

Normal loft construction

U-value	ISOVER Insulation thickness
0.13	**100mm ISOVER Spacesaver Plus between joists plus 200mm cross-laid**
0.13	**150mm ISOVER Spacesaver between joists plus 200mm cross-laid**

For further information on meeting the 2006 Part L Regulations, please contact the ISOVER Technical Support team on 0115 945 1143 or email isover.enquiries@saint-gobain.com

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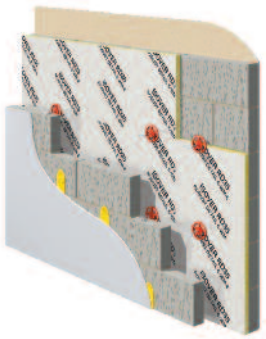
ACOUSTIC

Robust Detail solution for separating walls

ISOVER RD35 is designed to be built into masonry separating walls during construction to help housebuilders meet Part E Acoustic Building Regulations between dwellings (semis, terraced, flats). RD35 is a unique and fundamental component of Robust Detail E-WM-8 party wall construction, which has been proven by an intensive programme of in-situ site testing.

Separating Wall Construction Characteristics

Robust Detail E-WM-8 construction is based on a separating wall comprising of 2 leaves of lightweight aggregate blocks (minimum cavity width 75mm leaf to leaf), with a gypsum-based 'dot-and-dab' applied board finish. A render or parge coat is **not** required. The nominal specified weight of the gypsum-based board is 9.8kg/m^2 and the board thickness can be 12.5mm or 15mm provided that the nominal weight requirement is achieved.



Acoustic Insulation for internal partitions

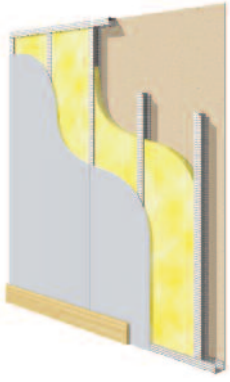
Part E Acoustic Building Regulations 2003 states that it is necessary to achieve acoustic performance of 40dB in partition walls between bedrooms and between WC's/bathrooms and other rooms. The following ISOVER solutions will satisfy this requirement.

A partition wall constructed from 1 layer of 12.5mm gypsum-based wallboard each side of timber studs at 600mm centres, with **ISOVER APR 1200** within the cavity.

Method of compliance: Tested

ISOVER Insulation Thickness (mm)	Timber Stud Thickness (mm)	Lab sound insulation (100-3150 Hz, R_w dB)	Fire resistance (mins)
65	63	40	30

A partition wall constructed from 1 layer of 12.5mm gypsum-based wallboard each side of metal studs at 600mm centres, with **ISOVER APR 1200** within the cavity.



Method of compliance: Tested

ISOVER Insulation Thickness (mm)	Metal Stud Thickness (mm)	Lab sound insulation (100-3150 Hz, R_w dB)	Fire resistance (mins)
25	48	40	30
50	48	42	30

For further information on meeting the 2003 Part E Regulations, please contact the ISOVER Technical Support team on 0115 945 1143 or email isover.enquiries@saint-gobain.com