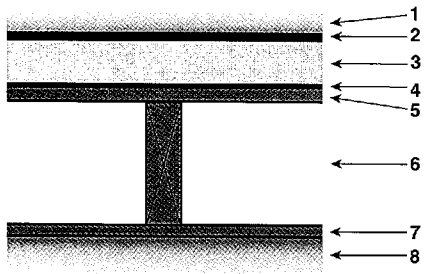


Pitched roof

Roof component	L (m)	λ (W/mK)	R (m ² K/W)
1 External surface resistance			0.04
2 Tiles and airspace between battens			0.12
3 Underlay			0.00
4 9.5 mm American plywood sarking	0.0095	0.115	0.08
5 Loft void			0.12
			$\Sigma R_p = 0.36$
Convert 'pitched' resistivity to 'on plan'			
			$R_f = \Sigma R_p \cdot \cos 40^\circ = 0.36 \cdot \cos 40^\circ = 0.28$
6 140 mm mineral (glass or rock) wool	0.140	0.04	3.50
7 13 mm plasterboard	0.013	0.16	0.08
8 Internal surface resistance			0.10
			$\Sigma R = 3.96$
			$U = 1/\Sigma R = 0.25 \text{ W/m}^2\text{K}$



Flat roof: warm deck

Roof component	L (m)	λ (W/mK)	R (m ² K/W)
1 External surface resistance			0.04
2 3 layer felt (no access)			0
3 100 mm rigid polystyrene sheet	0.100	0.029	3.45
4 Vapour check			0
5 18 mm American plywood deck	0.018	0.115	0.16
6 Unventilated airspace			0.18
7 13 mm plasterboard	0.013	0.160	0.08
8 Internal surface resistance			0.10
			$\Sigma R = 4.01$
			$U = 1/\Sigma R = 0.25 \text{ W/m}^2\text{K}$

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