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U-value calculation by BRE U-value Calculator version 2.04a - Printed on 25 Mar 2024 at 13:31

Filename: TrioQuilt 0.15 U-value - 150mm Rafters, 400mm Centres.uva (File saved: 25 Mar 2024 13:31)

Element type: Roof - Pitched roof - insulated slope, sloping ceiling - Calculation Method: BS EN ISO 6946

TrioQuilt 0.15 U-value - 150mm Rafters, 400mm Centres

Layer	d (mm)	λ layer	λ bridge	Fraction	R layer	R bridge	Description
					0.100		Rsi
1	12.5	0.210			0.060		Plasterboard (standard wallboard)
2	25	R-value ¹	0.130	0.0630	0.490	0.192	25mm Battens
3	7	R-value	R-value	0.0120	1.520	0.670	SuperQuilt
4	25	R-value ²	0.130	0.0630	0.040	0.192	25mm Battens
5	7	R-value	R-value	0.0120	1.520	0.670	SuperQuilt (Under Rafters - Taut)
6	25	R-value ³	0.130	0.117	0.490	0.192	25mm Rafters / Cavity
7	100	0.040	0.130	0.117	2.500	0.769	100mm Rafters / EcoLoft Non-Itch
8	25	R-value	0.130	0.117	0.160	0.192	25mm Rafters / Cavity
9							Breather membrane
10	25	R-value					25mm Battens
11	15	1.000					Tiles (clay)
					<u>0.100 #</u>		Rse
	<u>267 mm</u>	(total roof thickness)			<u>6.980</u>		

¹Calculated with specified emissivity of 0.02

²Calculated with specified emissivity of 0.02

³Calculated with specified emissivity of 0.02

this resistance substitutes for Rse and the resistance of layers 10-11 because of the ventilated air layer (layer 10)

Total resistance: Upper limit: 6.633 Lower limit: 6.300 Ratio: 1.053 Average: 6.466 m²K/W

U-value (uncorrected) 0.155

U-value corrections

Air gaps in layer 7 $\Delta U = 0.000$ (Level 0)

No fixings in layer 5

Total ΔU 0.000

U-value (corrected) 0.155 (0.1546)

U-value (rounded) 0.15 W/m²K

Calculated By;

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