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**U-value calculation** by BRE U-value Calculator version 2.04b - Printed on 04 Jun 2015 at 14:12

**Element type: Roof - Pitched roof - insulated ceiling** - Calculation Method: BS EN ISO 6946

**Insulation Online - Plane Ceiling 1 - 4th June 2015**

<u>Layer</u>	<u>d (mm)</u>	<u>λ layer</u>	<u>λ bridge</u>	<u>Fraction</u>	<u>R layer</u>	<u>R bridge</u>	<u>Description</u>
					0.100		Rsi
1	12.5	0.210			0.060		Plasterboard
2	100	0.044	0.130	0.0900	2.273	0.769	Earthwool Loft Roll 44 / joists
3	170	0.044			3.864		Earthwool Loft Roll 44
4		R-value <sup>1</sup>			0.200		Roof space
					<u>0.040</u>		Rse
	<u>283 mm</u>				<u>6.536</u>		

<sup>1</sup>Roof space - tiled roof, with felt or sarking boards

Total resistance: Upper limit: 6.365 Lower limit: 6.196 Ratio: 1.027 Average: 6.280 m<sup>2</sup>K/W

U-value (uncorrected) 0.159

U-value corrections

Air gaps in layer 2	ΔU = 0.000	(Level 0)
Loft hatch	ΔU = 0.003	(Insulation thickness = 50 mm)
Total ΔU	0.003	(2.1% of U)

U-value (corrected) 0.159 (ΔU not added since it is less than 3% of U)  
**U-value (rounded) 0.16 W/m<sup>2</sup>K**

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