Calculation of interstitial condensation

by ICond Calculator version 2.03
Printed on 06 Mar 2018 at 11:47
Element type: Roof

Roof Type 2 - 194mm SIP

Construction Details

Layer	d mm	λ W/m·K	rv MN·s/g·m	R layer m²K/W	Rv layer MN·s/g	Description
				0.100		Rsi
1	50	0.021		2.381		Gyproc Thermaline Super
2			Rv-value		689	Protect VC Foil Ultra Insulating AVCL Membrane
3	25	R-value	Rv-value	0.530	0.050	Air layer unventilated
4	11	0.130	50.0	0.085	0.55	SIP - OSB
5	172	0.030	7.00	5.733	1.2	SIP - Lambdatherm EPS
6	11	0.130	50.0	0.085	0.55	SIP - OSB
7			Rv-value		0.080	Protect VP400 Plus LR
8	50	R-value	Rv-value		##	Air layer ventilated
9	12	1.000	2.50		##	Roof Tiles
				0.100 #		Rse
	331 mm (total roof thickness)			9.014	691	

\# this resistance substitutes for Rse and the resistance of layers 8-9 because of the
ventilated air layer (layer 8)
\#\# set to zero because of the ventilated air layer

Boundary conditions	Manchester (Edinburgh.hgt)
	Return period 2 years (mean external temperature and RH)
	Internal Humidity: BS 5250 Class 3

Results
No condensation

The U value result has been determined as follows:

Bridging:

A thermal bridge percentage for the timber studs of 12.5% has been used in accordance with BR 443: 2006 Conventions for U values (section 4.5.1 (ii)).
Correction level:
A correction level of 0 has been used in accordance with Table F1 of BS EN ISO 6946: 2017 Building components and Building elements - Thermal transmittance - Calculation methods.
Please check to confirm and advise if any amendments are required.

Calculated by Protect Technical Services