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Calculation of interstitial condensation

by ICond Calculator version 2.03
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Element type: Wall

Calculation Method: BS EN ISO 13788

Wall Type 3 - 144mm SIP

Construction Details

Layer	d mm	λ W/m·K	rv MN·s/g·m	R layer m ² K/W	Rv layer MN·s/g	Description
				0.130		Rsi
1	12.5	0.210	60.0	0.060	0.75	Vapour Check Plasterboard
2			Rv-value		689	Protect VC Foil Ultra Insulating AVCL Membrane
3	25	R-value	Rv-value	0.780	0.050	Cavity unventilated
4	11	0.130	50.0	0.085	0.55	SIP - OSB
5	122	0.030	5.00	4.067	0.61	SIP - Lambdatherm EPS
6	11	0.130	50.0	0.085	0.55	SIP - OSB
7			Rv-value		1.0	Protect TF200 Breather Membrane
8	50	R-value	Rv-value		##	Cavity ventilated
9	18	0.125			##	Timber Cladding
				0.130 #		Rse
	<u>250 mm</u> (total wall thickness)			5.335	693	

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

Month	Internal T °C	Internal RH %	External T °C	External RH %	RH % at internal surface
October	20.0	62	10.6	83	63
November	20.0	59	6.4	85	60
December	20.0	58	4.6	86	59
January	20.0	57	3.9	85	58
February	20.0	56	3.9	82	57
March	20.0	56	5.7	79	57
April	20.0	55	8.0	75	56
May	20.0	57	11.3	73	58
June	20.0	62	14.2	75	63
July	20.0	65	15.8	75	65
August	20.0	66	15.7	77	66
September	20.0	64	13.5	80	65

Calculated by Protect Technical Services

