

Project Information

Reference
Date

Construction Type

Element	: Wall - 15.01.26 - Wall - Solid Wall - Internal - SF40 37.5mm IPB - 0.18					
Internal surface emissivity	: High	External surface emissivity		: High		
		Thickness	Thermal Conductivity	Thermal Resistance	Pitch	Bridge details
		(mm)	(W/mK)	(m²K/W)	(°)	Air gaps (Level, Delta U")
Outside surface resistance		-	-	0.040		
Sandstone		500.0	2.299	0.218		
Batten Cavity		50.0	-	0.740		7.833% softwood (~500kg/m³) (50.0mm)
(Bridged un-vented cavity - width=553.0mm, hro=5.100, E1=0.900, E2=0.020, horizontal heat flow)						
SuperFOIL SF40		11.2	-	2.570		1.500% SuperFOIL (11.2mm)
Batten Cavity		50.0	-	0.740		7.833% softwood (~500kg/m³) (50.0mm)
(Bridged un-vented cavity - width=553.0mm, hro=5.100, E1=0.020, E2=0.900, horizontal heat flow)						
Rigid Insulation Board		25.0	0.022	1.136		
Plasterboard		12.5	0.179	0.070		
Skim		3.0	0.400	0.008		
Inside surface resistance		-	-	0.130		
Total thickness		651.7mm				

U-value = 0.18W/m²K

U-value, Combined Method : 0.184W/m²K (upper/lower limit 5.537 / 5.314m²K/W, dUf 0.0000, dUg 0.0000, dUp 0.0000, dUr 0.0000, dUrc1 0.0000, dUrc2 0.0000)

Correction factors

Air gaps, Delta Ug = 0.000W/m²K

(Based on the combined method for determining U-values of structures containing repeating thermal bridges)

	Thickness (mm)	Thermal Conductivity (W/mK)	Thermal Resistance (m²K/W)	Vapour Resistivity (MNs/gm)	Vapour Resistance (MNs/g)
Outside surface resistance	-	-	0.040	-	-
Sandstone	500.0	2.299	0.218	200.00	100.00
Batten Cavity	50.0	-	0.740	-	0.00
(Bridged un-vented cavity - width=553.0mm, hro=5.100, E1=0.900, E2=0.020, horizontal heat flow)					
SuperFOIL SF40	11.2	-	2.570	-	1200.00
Batten Cavity	50.0	-	0.740	-	0.00
(Bridged un-vented cavity - width=553.0mm, hro=5.100, E1=0.020, E2=0.900, horizontal heat flow)					
Rigid Insulation Board	25.0	0.022	1.136	-	150.00
Plasterboard	12.5	0.179	0.070	50.00	0.63
Skim	3.0	0.400	0.008	50.00	0.15
Inside surface resistance	-	-	0.130	-	-
Total thickness	651.7mm				

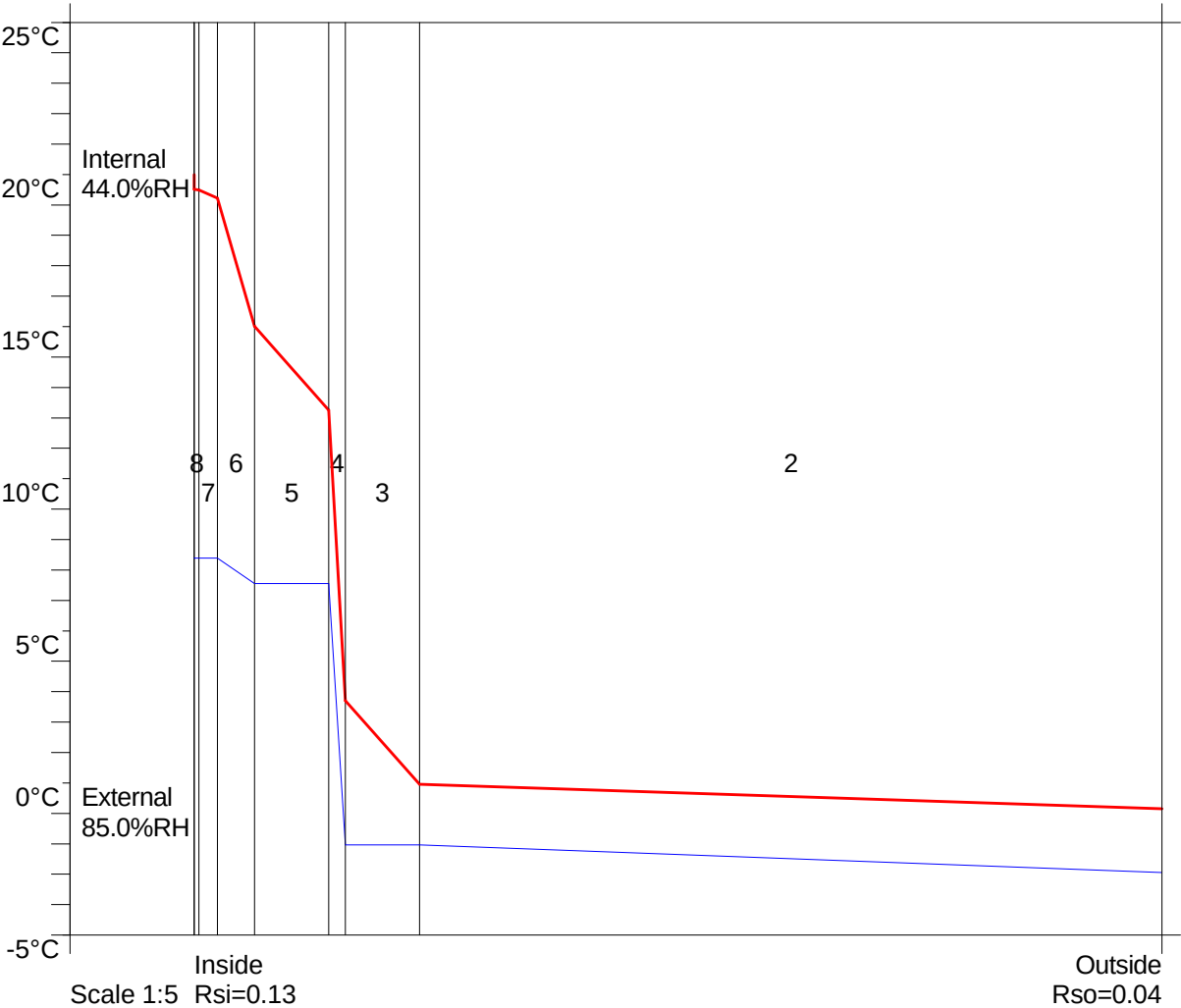
Condensation Risk Analysis (no account taken of thermal bridges)

3 - Dwellings with low occupancy

Jan (worst)	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec												
20.0C	44.0%	20.0C	45.0%	20.0C	49.0%	20.0C	54.0%	22.0C	59.0%	24.0C	63.0%	24.5C	64.0%	24.5C	64.0%	22.5C	60.0%	20.0C	55.0%	20.0C	50.0%	20.0C	46.0%
-1.0C	85.0%	0.0C	84.0%	4.0C	78.0%	9.0C	72.0%	14.0C	68.0%	18.0C	69.0%	19.0C	73.0%	19.0C	75.0%	15.0C	79.0%	10.0C	83.0%	5.0C	88.0%	1.0C	88.0%

	Interface Temp. °C	Dewpoint Temp. °C	Vapour Pressure (kPa)	Saturated V.P. (kPa)	Worst Cond. (g/m²)	Peak Buildup (g/m²)	Conden-sation
1 Outside surface resistance	-0.9	-2.9	0.48	0.57			No
2 Sandstone	0.0	-2.0	0.52	0.61			No
3 Batten Cavity	2.7	-2.0	0.52	0.74			No
4 SuperFOIL SF40	12.3	6.6	0.97	1.43			No
5 Batten Cavity	15.0	6.6	0.97	1.71			No
6 Rigid Insulation Board	19.2	7.4	1.03	2.23			No
7 Plasterboard	19.5	7.4	1.03	2.26			No
8 Skim	19.5	7.4	1.03	2.27			No
9 Inside surface resistance							No

Worst case internal / external conditions for graph : 20.0°C @ 44.0%RH / -1.0°C @ 85.0%RH



This free U-value calculation is based on recipient-provided information. Every effort has been made to ensure accuracy, but Boulder Developments Ltd and associated parties are not liable. Project management and building control authorities must approve the specification. It demonstrates only the thermal transmittance of the specified construction. Other building regulation compliances, including fire safety, must be independently assessed.