

U-VALUE CALCULATOR REPORT

Property Reference	John Obrien	Issued on Date	03/05/2022
Assessment Reference		Prop Type Ref	
Project			
Calculation Type	Existing Dwelling		

SAP Rating		DER		TER	
Environmental		% DER<TER			
CO ₂ Emissions (t/year)		DFEE		TFEE	
General Requirements Compliance		% DFEE<TFEE			

Assessor Details	Mr. Dean Gallafent, Design SAP Customer Trial, Tel: 01455883250, dean@boulder.co.uk	Assessor ID	Q244-0001
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Client	
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Building Elements

Floor Suspended Timber Floor - SF40BB

Floor Type: Suspended Floor

Area = 20.00 m², Perimeter = 18.30 m, Wall thickness = 275.00 mm, Soil: Unknown

Depth of underfloor space below ground: 0.200 m Floor wind shielding: Average (suburban)

Floor height above ground: h = 0.200 m

U-value of walls above ground: U_w = 1.500 m

Ventilation openings per perimeter length: e = 0.0015 %

Mean wind speed: v = 5.000 m/s

Resistance on solum: R_g = 0.000 m²K/W

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.1700	
Layer 1	Cavity				
	Main construction	100	0.0000	0.0000	87.50
	Main construction	100	0.1300	0.0000	12.50
	Corrections - Cavity Ventilated, Emissivity: Normal				
Layer 2	SuperFOIL SF40BB				
	Main construction	75	0.0257	2.9200	100.00
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 3	Joist Cavity				
	Main construction	100	0.1754	0.5700	87.50
	Main construction	100	0.1300	0.7692	12.50
Layer 4	Floor Boards				
	Main construction	18	0.1300	0.1385	100.00
Int surface				0.1700	

Total resistance: Upper limit = 3.992 m² K/W Lower limit = 3.988 m² K/W Average = 3.990 m² K/W

Total correction = 0.0054 m² K/W

U-value (unrounded) = 0.22 W/m² K

Unheated space: None

Total thickness: 293 mm

U-value: 0.22 W/m² K

Kappa: n/a

CONDENSATION RISK ANALYSIS

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Floor - Suspended Timber Floor

Environmental conditions

External conditions	Temperature:	<input type="text" value="5"/>	°C	Relative Humidity:	<input type="text" value="95"/>	%
Internal conditions	Temperature:	<input type="text" value="15"/>	°C	Relative Humidity:	<input type="text" value="65"/>	%

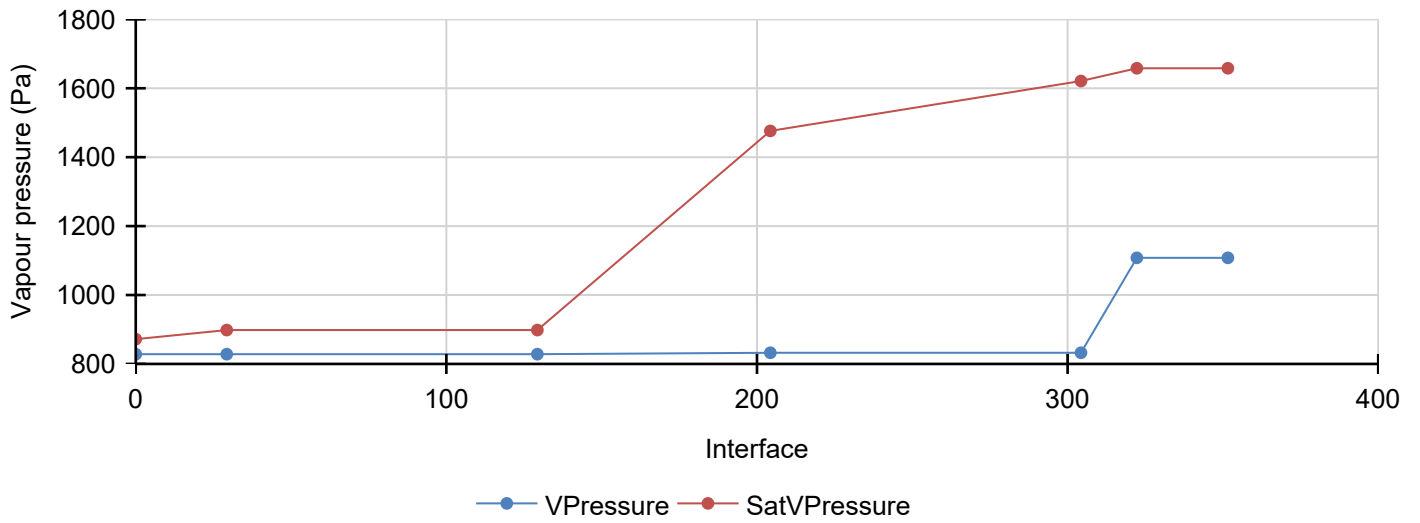
Table of layers

Layer	Thickness mm	Thermal conduct. W/m.K	Thermal resistance m ² .K/W	Cumulative thermal resistance m ² .K/W	Vapour resistivity GN.s/kg.m	Vapour resistance GN.s/kg.m	Cumulative vapour resistance GN.s/kg.m
External surface	-	0.0000	0.1700	0.1700	0.0	0.00	0.00
1.Cavity	100.0	0.0000	0.0000	0.1700	0.0	0.00	0.00
2.SuperFOIL SF40BB	75.0	0.0000	2.9200	3.0900	0.000	0.12	0.12
3.Joist Cavity	100.0	0.0000	0.5700	3.6600	0.0	0.00	0.12
4.Floor Boards	18.0	0.1300	0.1385	3.7985	450.0	8.10	8.22
Internal surface	-	0.0000	0.1700	3.7985	0.0	0.00	8.22

Vapour pressure table

Interface - between layers	Interface temp. °C	Vapour pressure Pa	Satur. vapour pressure Pa	Dew point °C	Cond. rate g/m ² h	Cond. rate 60 days g/m ² h	Cond. risk Y/N
External surface	5.00	828.3	871.9	4.27	0.00	0.00	No
1. External surface / Cavity	5.43	828.3	898.3	4.3	0.00	0.00	No
2. Cavity / SuperFOIL SF40BB	5.43	828.3	898.3	4.3	0.12	176.33	No
3. SuperFOIL SF40BB / Joist Cavity	12.79	832.4	1476.2	4.3	0.00	0.00	No
4. Joist Cavity / Floor Boards	14.22	832.4	1621.0	4.3	0.00	0.00	No
Floor Boards / Internal surface	14.57	1107.9	1658.0	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1658.0	8.48	0.00	0.00	No

CONDENSATION RISK ANALYSIS



Interface temperature / Dew point graphical representation

