

U-VALUE CALCULATOR REPORT

Property Reference	P22691	Issued on Date	24/02/2023
Assessment Reference		Prop Type Ref	
Project	Mount Pleasant		
Calculation Type	New Build (As Built)		

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

Assessor Details	Mr. Malcolm Lisle, Malcolm Lisle, Tel: 0114 2521999, malcolm@saps4u.com	Assessor ID	P736-0001
Client			

Building Elements

Wall Cellulose Wall

Wall Type: Timber framed Wall with I-beams

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	Brick, outer leaf				
	Main construction	100	0.7700	0.1299	82.81
		100	0.9407	0.1063	17.19
Layer 2	Cellulose				
	Main construction	140	0.0380	3.6842	87.50
		140	0.1300	1.0769	12.50
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 3	Celotex GA4000				
	Main construction	75	0.0220	3.4091	100.00
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 4	Plasterboard, standard				
	Main construction	12.5	0.2100	0.0595	100.00
Int surface				0.1300	

Total resistance:	Upper limit = 6.979 m ² K/W	Lower limit = 6.592 m ² K/W	Average = 6.785 m ² K/W
	Total correction = 0.0043 m ² K/W	U-value (unrounded) = 0.15 W/m ² K	

Unheated space: None

Total thickness: 328 mm

U-value: 0.15 W/m² K

Kappa: n/a

CONDENSATION RISK ANALYSIS

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Wall - Cellulose Wall

Environmental conditions

External conditions Temperature: °C Relative Humidity: %
Internal conditions Temperature: °C Relative Humidity: %

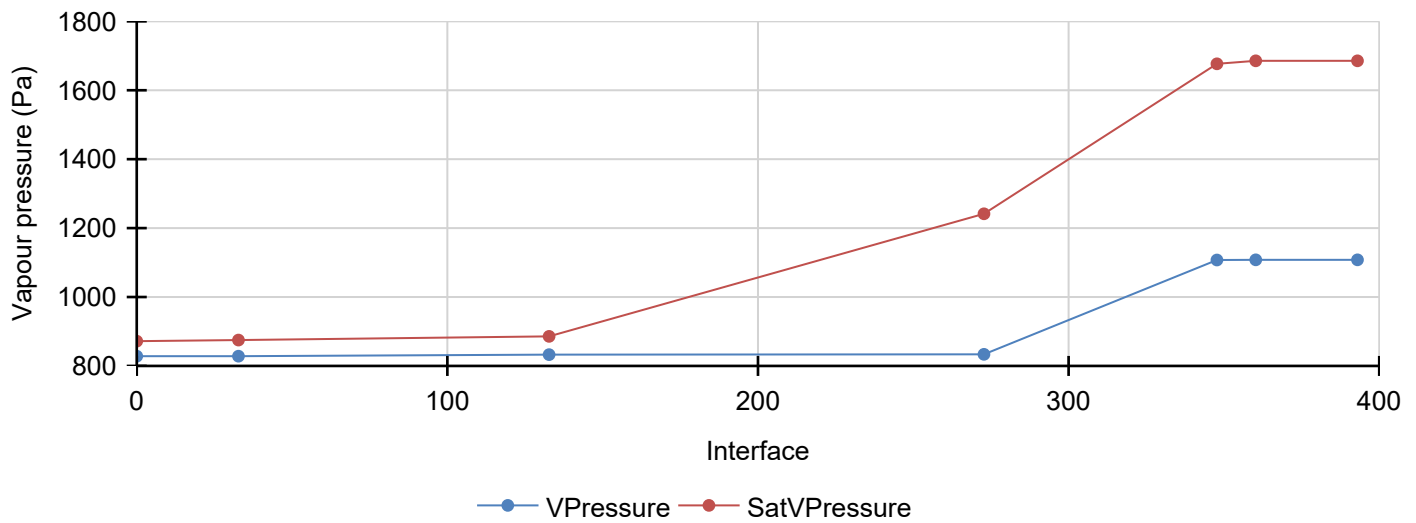
Table of layers

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	0.0400	0.0400	0.0	0.00	0.00
1.Brick, outer leaf	100.0	0.7700	0.1299	0.1699	50.0	5.00	5.00
2.Cellulose	140.0	0.0380	3.6842	3.8541	7.0	0.98	5.98
3.Celotex GA4000	75.0	0.0220	3.4091	7.2632	0.000	300.00	305.98
4.Plasterboard, standard	12.5	0.2100	0.0595	7.3227	45.0	0.56	306.54
Internal surface	-	0.0000	0.1300	7.3227	0.0	0.00	306.54

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 / Brick, outer leaf	5.05	828.3	875.1	4.3	0.00	0.00	No
2. Brick, outer leaf / Cellulose	5.23	832.8	885.8	4.3	0.00	0.00	No
3. Cellulose / Celotex GA4000	10.17	833.7	1241.5	4.4	0.00	0.00	No
4. Celotex GA4000 / Plasterboard, standard	14.75	1107.4	1676.7	8.5	0.00	0.00	No
Plasterboard, standard / Internal surface	14.83	1107.9	1685.4	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1685.4	8.48	0.00	0.00	No

CONDENSATION RISK ANALYSIS



Interface temperature / Dew point graphical representation

