

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

Roof Sloping/Balcony Roof

Roof Type: Pitched Roof, insulated sloping ceiling

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)	Density (kg/m ³)	Heat Cap. (J/kgK)
Ext surface				0.0400			
Layer 1	Celotex GA4000						
	Main construction	75	0.0220	3.4091	100.00	30	1400
	Corrections - Air Gap: Level 1, Fasteners: None or plastic						
Layer 2	ROCKWOOL FLEXI slab (140mm)						
	Main construction	140	0.0350	4.0000	87.50		
	Main construction	140	0.1300	1.0769	12.50		
	Corrections - Air Gap: Level 1, Fasteners: None or plastic						
Int surface				0.1000			

Total resistance: Upper limit = 6.996 m² K/W Lower limit = 6.536 m² K/W Average = 6.766 m² K/W
Total correction = 0.0045 m² K/W U-value (unrounded) = 0.15 W/m² K

Unheated space: None

Total thickness: 215 mm

U-value: 0.15 W/m² K

Kappa: 0.00 kJ/m² K

CONDENSATION RISK ANALYSIS

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Roof - Sloping/Balcony Roof

Environmental conditions

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

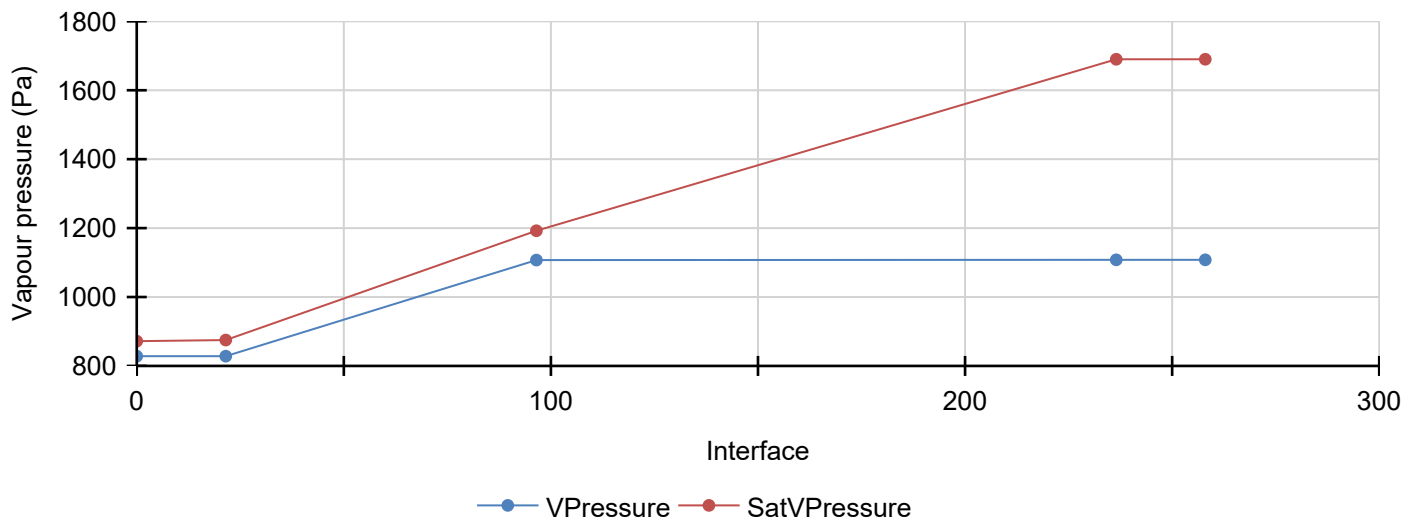
Table of layers

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.Celotex GA4000	75.0	0.0220	3.4091	3.4491	0.000	300.00	300.00
2.ROCKWOOL FLEXI slab (140mm)	140.0	0.0350	4.0000	7.4491	5.0	0.70	300.70
Internal surface	-	0.0000	0.1000	7.4491	0.0	0.00	300.70

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 / Celotex GA4000	5.05	828.3	875.1	4.3	0.00	0.00	No
2. Celotex GA4000 / ROCKWOOL FLEXI slab (140mm)	9.57	1107.2	1192.3	8.5	0.00	0.00	No
ROCKWOOL FLEXI slab (140mm) / Internal surface	14.87	1107.9	1689.9	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1689.9	8.48	0.00	0.00	No

CONDENSATION RISK ANALYSIS



Interface temperature / Dew point graphical representation

