

# U-VALUE CALCULATOR REPORT

Property Reference	P23972 The Western	Issued on Date	16/10/2023
Assessment Reference		Prop Type Ref	
Project	The Western, 205, High Street		
Calculation Type	New Build (As Built)		

SAP Rating		DER		TER	
Environmental		% DER<TER			
CO <sub>2</sub> 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

### Floor Ground Floor

Floor Type: Slab On Ground Floor

Area = 49.84 m<sup>2</sup>, Perimeter = 26.85 m, Wall thickness = 275.00 mm, Soil: Other

Horizontal edge insulation: none

Vertical edge insulation: none

Layer	Description	Thickness (mm)	Conductivity (W/m <sup>2</sup> K)	Resistance (m <sup>2</sup> K/W)	Fraction (%)	Density (kg/m <sup>3</sup> )	Heat Cap. (J/kgK)
Ext surface				0.0400			
Layer 1	<b>Celotex XR4000</b>						
	Main construction	200	0.0220	9.0909	100.00	30	1400
	Corrections - Air Gap: Level 1, Fasteners: None or plastic						
Int surface				0.1700			

Total resistance: Upper limit = 9.091 m<sup>2</sup> K/W Lower limit = 9.091 m<sup>2</sup> K/W Average = 9.091 m<sup>2</sup> K/W  
 Total correction = 0.0100 m<sup>2</sup> K/W U-value (unrounded) = 0.1 W/m<sup>2</sup> K

Unheated space: None

**Total thickness: 200 mm**

**U-value: 0.10 W/m<sup>2</sup> K**

**Kappa: 0.00 kJ/m<sup>2</sup> K**

# CONDENSATION RISK ANALYSIS

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## Floor - Ground 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"/>	%

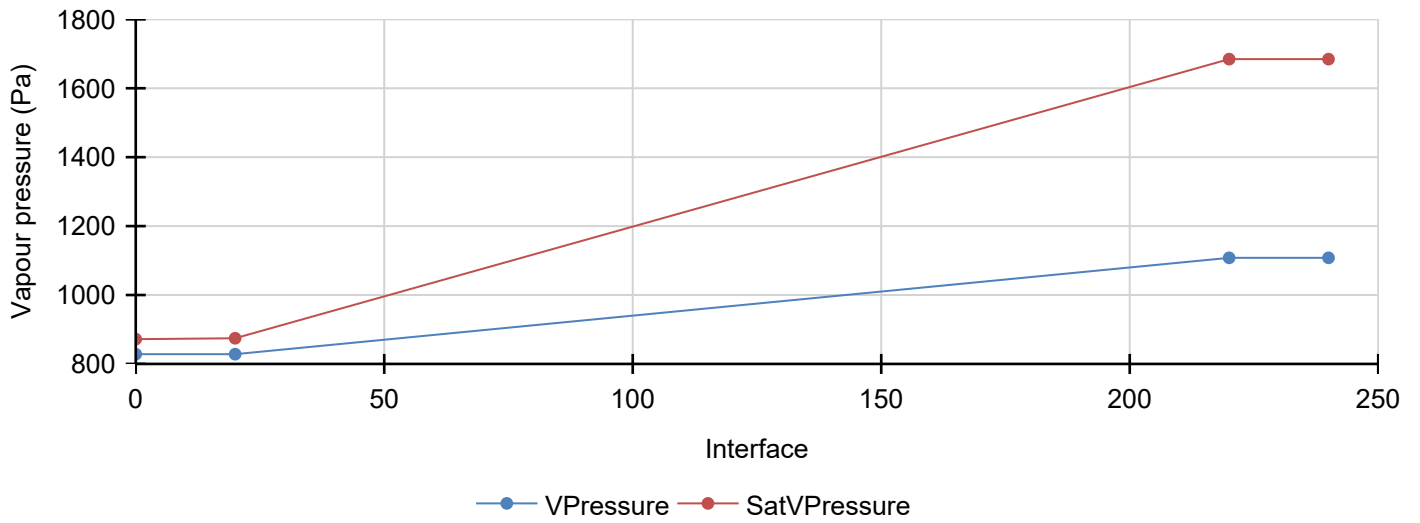
### Table of layers

Layer	Thickness mm	Thermal conduct. W/m.K	Thermal resistance m <sup>2</sup> .K/W	Cumulative thermal resistance m <sup>2</sup> .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 XR4000	200.0	0.0220	9.0909	9.1309	0.000	300.00	300.00
Internal surface	-	0.0000	0.1700	9.1309	0.0	0.00	300.00

### Vapour pressure table

Interface - between layers	Interface temp. °C	Vapour pressure Pa	Satur. vapour pressure Pa	Dew point °C	Cond. rate g/m <sup>2</sup> h	Cond. rate 60 days g/m <sup>2</sup> h	Cond. risk Y/N
External surface	5.00	828.3	871.9	4.27	0.00	0.00	No
1. External surface / Celotex XR4000	5.04	828.3	874.5	4.3	0.00	0.00	No
Celotex XR4000 / Internal surface	14.82	1107.9	1684.5	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1684.5	8.48	0.00	0.00	No

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## Interface temperature / Dew point graphical representation

