

U-VALUE CALCULATOR REPORT

Property Reference	24735	Issued on Date	22/11/2024
Assessment Reference		Prop Type Ref	SIP Panels
Project			
Calcuton Type	New Build (As Built)		

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

Assessor Details	Mr. Jonathon Stone, Jon Stone, Tel: 07506 724 077, jon@jostec.co.uk	Assessor ID	Y315-0001
Client			

Building Elements

Wall 122mm Brick Cavity - Masonry wall full cavity .il-slabs

Wall Type: Standard Wall

Layer	Description	Thickness (mm)	Conductvity (W/m ² K)	Resistance (m ² K/W)	Fracton (%)	Density (kg/m ³)	Heat Cap. (J/kgK)
Ext surface				0.0400			
Layer 1	Brick, outer leaf Main constructon	102.5	0.7700	0.1331	100.00	950	840
Layer 2	Standard cavity Main constructon Correctons - Cavity Unventedlated, Emissivity: Normal	50	0.2778	0.1800	100.00		
Layer 3	Breather Membrane Main constructon	0.6	0.0000	0.0000	100.00	0	0
Layer 4	Orientated Strand Board Main constructon	11	0.1300	0.0846	100.00		
Layer 5	EPS Main constructon Correctons - Air Gap: Level 1, Fasteners: None or plastic	100	0.0300	3.3333	100.00	0	0
Layer 6	Orientated Strand Board Main constructon	11	0.1300	0.0846	100.00		
Layer 7	Polythene,1000 gauge Main constructon	0.25	0.0000	0.0000	100.00		
Layer 8	airspace/tmber ba©ens Main constructon Main constructon Correctons - Cavity Unventedlated, Emissivity: Normal	22 22	0.1222 0.1243	0.1800 0.1770	89.63 10.37		
Layer 9	Gyproc FireLine Plasterboard Main constructon	12.5	0.2400	0.0521	100.00	840	950
Layer 10	Plaster, standard Main constructon	3	0.4000	0.0075	100.00	1200	837
Int surface				0.1300			

Total resistance: Upper limit = 4.225 m² K/W Lower limit = 4.225 m² K/W Average = 4.225 m² K/W
 Total correcton =0.0062 m² K/W U-value (unrounded) = 0.24 W/m² K

Unheated space: None
Total thickness: 313 mm U-value: 0.24 W/m ² K Kappa: 13.39 kJ/m ² K

CONDENSATION RISK ANALYSIS

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

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Wall - 122mm Brick Cavity

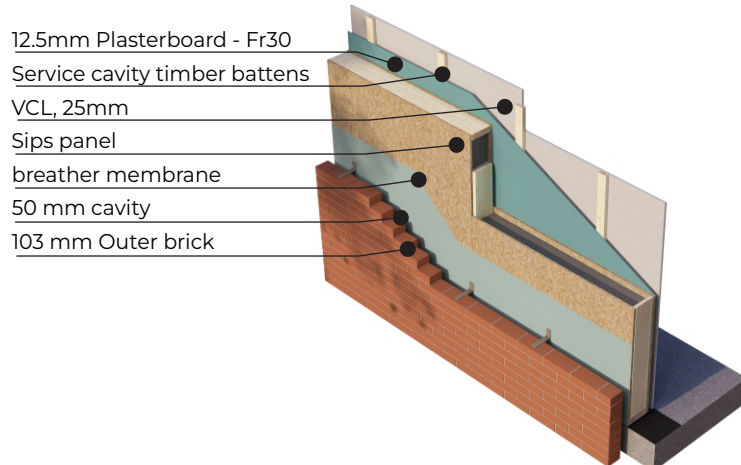
Environmental conditons

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

Table of layers

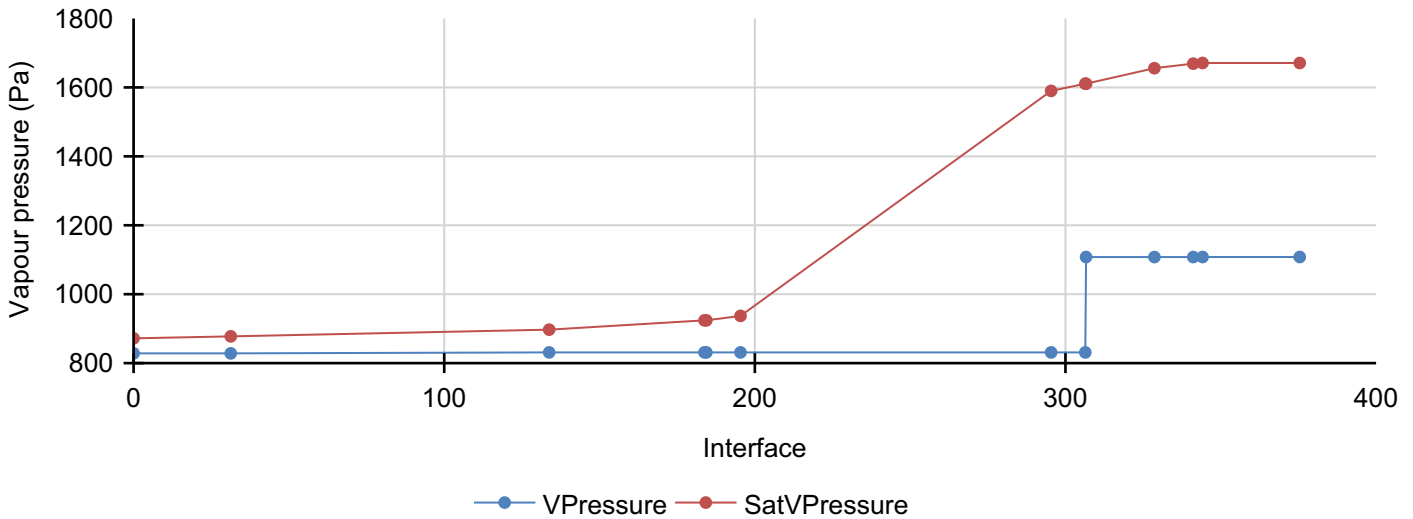
Layer	Thickness mm	Thermal conduct. W/m.K	Thermal resistance m ² .K/W	Cumulatve thermal resistance m ² .K/W	Vapour resistivity GN.s/kg.m	Vapour resistance GN.s/kg.m	Cumulatve vapour resistance GN.s/kg.m
External surface	-	0.0000	0.0400	0.0400	0.0	0.00	0.00
1.Brick, outer leaf	102.5	0.7700	0.1331	0.1731	50.0	5.13	5.13
2.Standard cavity	50.0	0.0000	0.1800	0.3531	0.0	0.00	5.13
3.Breather Membrane	0.6	0.0000	0.0000	0.3531	0.0	0.00	5.13
4.Orientated Strand Board	11.0	0.1300	0.0846	0.4377	0.0	0.00	5.13
5.EPS	100.0	0.0300	3.3333	3.7711	0.0	0.00	5.13
6.Orientated Strand Board	11.0	0.1300	0.0846	3.8557	0.0	0.00	5.13
7.Polythene,1000 gauge	0.3	0.0000	0.0000	3.8557	0.000	500.00	505.13
8.airspace/tmber ba@ens	22.0	0.0000	0.1800	4.0357	0.0	0.00	505.13
9.Gyproc FireLine Plasterboard	12.5	0.2400	0.0521	4.0878	0.0	0.00	505.13
10.Plaster, standard	3.0	0.4000	0.0075	4.0953	60.0	0.18	505.31
Internal surface	-	0.0000	0.1300	4.0953	0.0	0.00	505.31

Vapour pressure table



CONDENSATION RISK ANALYSIS

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	5.09	828.3	877.6	4.3	0.00	0.00	No
2. Brick, outer leaf / Standard cavity	5.41	831.1	897.1	4.3	0.00	0.00	No
3. Standard cavity / Breather Membrane	5.84	831.1	924.1	4.3	0.00	0.00	No
4. Breather Membrane / Orientated Strand Board	5.84	831.1	924.1	4.3	0.00	0.00	No
5. Orientated Strand Board / EPS	6.04	831.1	937.0	4.3	0.00	0.00	No
6. EPS / Orientated Strand Board	13.93	831.1	1590.0	4.3	0.00	0.00	No
7. Orientated Strand Board / Polythene,1000 gauge	14.13	831.1	1610.8	4.3	0.00	0.00	No
8. Polythene,1000 gauge / airspace/ mber ba@ens	14.13	1107.8	1610.8	8.5	0.00	0.00	No
9. airspace/ mber ba@ens / Gyproc FireLine Plasterboard	14.55	1107.8	1655.8	8.5	0.00	0.00	No
10. Gyproc FireLine Plasterboard / Plaster, standard	14.67	1107.8	1669.0	8.5	0.00	0.00	No
Plaster, standard / Internal surface	14.69	1107.9	1670.9	8.5	0.00	0.00	No
Internal surface	15.00	1107.9	1670.9	8.48	0.00	0.00	No



Interface temperature / Dew point graphical representation

