

# U-VALUE CALCULATOR REPORT

Property Reference	21124	Issued on Date	20/12/2021
Assessment Reference		Prop Type Ref	u-values
Project	Re-Purposed PIR Insulation		
Calculation Type	Conversion (As Designed)		

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

Assessor Details	Mrs. Susan Fox, SF Energy Limited, Tel: 07825 631518, suzi@sfenergy.co.uk	Assessor ID	C358-0001
Client	MAC Architects, M151		

## Building Elements

### Wall Granite Wall column B - 140mm Repurposed PIR

#### Wall Type: Standard Wall

Layer	Description	Thickness (mm)	Conductivity (W/m <sup>2</sup> K)	Resistance (m <sup>2</sup> K/W)	Fraction (%)
<b>Ext surface</b>				0.0400	
<b>Layer 1</b>	<b>Reclaimed Granite</b>				
	Main construction	100	2.8000	0.0357	100.00
<b>Layer 2</b>	<b>Bituminous DPM</b>				
	Main construction	1	0.5000	0.0020	100.00
<b>Layer 3</b>	<b>ventilated cavity</b>				
	Main construction	50	0.5556	0.0900	100.00
	Corrections - Cavity Slightly ventilated, Openings Area: 1000 mm, Emissivity: Normal				
<b>Layer 4</b>	<b>Proctor Frameshield 100</b>				
	Main construction	0.5	0.0000	0.0000	100.00
<b>Layer 5</b>	<b>Orientated Strand Board</b>				
	Main construction	9	0.1300	0.0692	100.00
<b>Layer 6</b>	<b>KR Cladding Repurposed PIR / studs</b>				
	Main construction	140	0.0310	4.5161	85.00
	Main construction	140	0.1300	1.0769	15.00
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
<b>Layer 7</b>	<b>airspace / studs</b>				
	Main construction	5	0.0455	0.1100	85.00
	Main construction	5	0.1300	0.0385	15.00
	Corrections - Cavity Unventilated, Emissivity: Normal				
<b>Layer 8</b>	<b>Reflectatherm</b>				
	Main construction	0.5	0.0000	0.0000	100.00
<b>Layer 9</b>	<b>service void</b>				
	Main construction	35	0.0449	0.7800	92.17
	Main construction	35	0.1300	0.2692	7.83
	Corrections - Cavity Unventilated, Emissivity: Normal				
<b>Layer 10</b>	<b>Plasterboard, standard</b>				
	Main construction	12.5	0.2100	0.0595	100.00
<b>Int surface</b>				0.1300	

<b>Total resistance:</b>	<b>Upper limit =</b> 4.730 m <sup>2</sup> K/W	<b>Lower limit =</b> 4.245 m <sup>2</sup> K/W	<b>Average =</b> 4.488 m <sup>2</sup> K/W
	<b>Total correction =</b> 0.0046 m <sup>2</sup> K/W	<b>U-value (unrounded) =</b> 0.22 W/m <sup>2</sup> K	

# U-VALUE CALCULATOR REPORT

Unheated space: None

**Total thickness: 354 mm**

**U-value: 0.22 W/m<sup>2</sup> K**

**Kappa: n/a**