

U-VALUE CALCULATOR REPORT



Property Reference	102 Mannock Road	Issued on Date	12/05/2026
Assessment Reference		Prop Type Ref	3688
Project			
Calculation Type	Conversion (As Designed)		

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

Assessor Details	Mr. Nick Gill, Nick Gill, Tel: 01444 657 756, info@pebble-energy.com	Assessor ID	AW10-0001
Client			

Building Elements

Wall External wall - Masonry solid wall

Wall Type: Standard Wall

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	EWI				
	Main construction	60	0.0220	2.7273	100.00
	Corrections - Air Gap: Level 1, Fasteners: None or plastic				
Layer 2	Brickwork				
	Main construction	250	0.7700	0.3247	82.81
	Main construction	250	0.9407	0.2658	17.19
Layer 3	airspace/plaster dabs				
	Main construction	15	0.0882	0.1700	80.00
	Main construction	15	0.0882	0.1700	20.00
	Corrections - Cavity Unventilated, Emissivity: Normal				
Layer 4	Plasterboard, standard				
	Main construction	12.5	0.2100	0.0595	100.00
Layer 5	Plaster				
	Main construction	3	0.1800	0.0167	100.00
Int surface				0.1300	

Total resistance:	Upper limit = 3.458 m ² K/W	Lower limit = 3.456 m ² K/W	Average = 3.457 m ² K/W
	Total correction = 0.0062 m ² K/W	U-value (unrounded) = 0.29 W/m ² K	

Unheated space: None

Total thickness: 341 mm

U-value: 0.29 W/m² K

Kappa: n/a

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Building Elements

Roof Pitched roof - Pitched roof- insulated flat ceiling

Roof Type: Pitched Roof, insulated flat ceiling

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	Rafter cavity				
	Main construction	150	0.4412	0.3400	100.00
	Corrections - Cavity Unventilated, Emissivity: Normal				
Layer 2	PIR insulation				
	Main construction	60	0.0220	2.7273	100.00
	Corrections - Air Gap: Level 0, Fasteners: None or plastic				
Layer 3	Plasterboard, standard				
	Main construction	12.5	0.2100	0.0595	100.00
Layer 4	Plaster				
	Main construction	3	0.1800	0.0167	100.00
Int surface				0.1000	

Total resistance: Upper limit = 3.283 m² K/W Lower limit = 3.283 m² K/W Average = 3.283 m² K/W
 Total correction = 0.0000 m² K/W U-value (unrounded) = 0.31 W/m² K

Unheated space: None

Total thickness: 226 mm

U-value: 0.31 W/m² K

Kappa: n/a

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

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Building Elements

Roof Flat roof - Flat roof

Roof Type: Flat Roof standard (no precipitation)

Layer	Description	Thickness (mm)	Conductivity (W/m ² K)	Resistance (m ² K/W)	Fraction (%)
Ext surface				0.0400	
Layer 1	OSB				
	Main construction	18	0.1300	0.1385	100.00
Layer 2	PIR insulation				
	Main construction	140	0.0220	6.3636	100.00
	Corrections - Air Gap: Level 0, Fasteners: None or plastic				
Layer 3	OSB				
	Main construction	18	0.1300	0.1385	100.00
Layer 4	Joists cavity				
	Main construction	125	0.3676	0.3400	91.11
	Main construction	125	0.1300	0.9615	8.89
	Corrections - Cavity Unventilated, Emissivity: Low Emissivity (BR443)				
Layer 5	Sound Bloc Board				
	Main construction	12.5	0.2100	0.0595	100.00
Layer 6	Plaster, standard				
	Main construction	3	0.4000	0.0075	100.00
Int surface				0.1000	

Total resistance: Upper limit = 7.239 m² K/W Lower limit = 7.208 m² K/W Average = 7.224 m² K/W
Total correction = 0.0000 m² K/W U-value (unrounded) = 0.14 W/m² K

Unheated space: None

Total thickness: 317 mm

U-value: 0.14 W/m² K

Kappa: n/a