



Documentation of the component

3. December 2021

Thermal transmittance (U-value) according to BS EN ISO 6946

Page 1/2

Source: **own catalogue - External walls**

Component: **NCGM0450-Proteus Facades Moorcroft&Brookway courts**

OUTSIDE

INSIDE



Assignment: External wall

	Manufacturer	Name	Thickness [m], number	Lambda [W/(mK)]	Q	R [m²K/W]
	Rse					0.0400
☒	1	Grants Catalogue	Aluminium	0.0020	160.000	E 0.0000
☒	2	Grants Catalogue	FABROCK CWP 410 Core	0.0250	0.038	E 0.6579
	Air gaps	Level 0: dU'' = 0.00 W/(m²K)				
☒	3	Grants Catalogue	Aluminium	0.0009	160.000	E 0.0000
	Rsi					0.1300
0.0279						

$$R_T = R_{si} + \sum R_i + R_{se} = 0.83 \text{ m}^2\text{K/W}$$

Correction to U-value for	according to	delta U [W/(m²K)]
Air gaps	BS EN ISO 6946 Annex D	0.000 0.000

$$U = 1/R_T + \sum \Delta U = 1.21 \text{ W/(m}^2\text{K)}$$

- Q .. The physical values of the building materials has been graded by their level of quality. These 5 levels are the following
- A** .. A: Data is entered and validated by the manufacturer or supplier. Data is continuously tested by 3rd party.
 - B** .. B: Data is entered and validated by the manufacturer or supplier. Data is certified by 3rd party
 - C** .. C: Data is entered and validated by the manufacturer or supplier.
 - D** .. D: Information is entered by BuildDesk without special agreement with the manufacturer, supplier or others.
 - E** .. E: Information is entered by the user of the BuildDesk software without special agreement with the manufacturer, supplier or others.

$$U = \boxed{1.21 \text{ W/(m}^2\text{K)}} \quad R_T = \boxed{0.83 \text{ m}^2\text{K/W}}$$



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Heat capacity

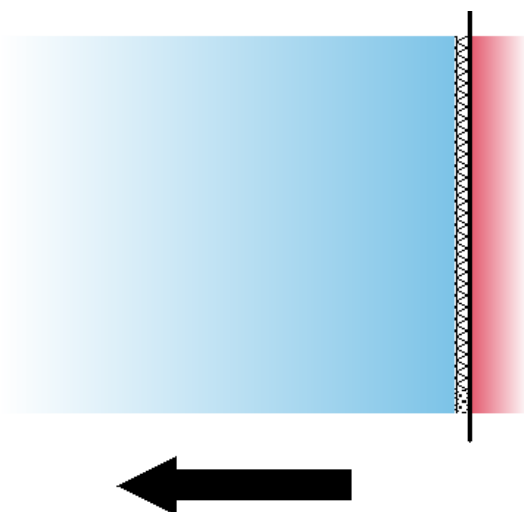
Page 2/2

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OUTSIDE

INSIDE



The list of materials shown below may differ from those in the U-value calculation printout. Only material layers which are used in the heat capacity calculation are listed.

Single material layers shown in the U-value calculation printout may be separated to meet the exclusion criteria:

- A .. The total thickness of the layers exceed 0.1 m.
- B .. The mid point in the construction is reached.

For insulation layers the following criteria applies:

- C .. An insulating layer is reached (defined as $\lambda \leq 0.08 \text{ W/(mK)}$).

Name	Thickness [m]	lambda [W/(mK)]	Q	Thermal capacity [kJ/(kgK)]	Q	Density [kg/m³]	Q	Thermal mass kJ/(m²K)	Criteria Exclusion
End of calculation - Cold									
1 Aluminium	0.0020	160.000	E	0.88	E	2800.0	E	4.9	-, B, C
2 FABROCK CWP 410 Core	0.0120	0.038	E	1.03	E	140.0	E	0.0	-, B, C
2 FABROCK CWP 410 Core	0.0131	0.038	E	1.03	E	140.0	E	0.0	-, -, C
3 Aluminium	0.0009	160.000	E	0.88	E	2800.0	E	2.2	-, -, -
Start of calculation - Warm									
	0.0279							2.2	

Heat capacity = 2.2 kJ/(m²K)

The following exclusion criteria apply:

- B .. The mid point in the construction is reached.
- C .. An insulating layer is reached (defined as $\lambda \leq 0.08 \text{ W/(mK)}$).

Q .. The physical values of the building materials has been graded by their level of quality. These 5 levels are the following

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