

Documentation of the component

23. June 2010

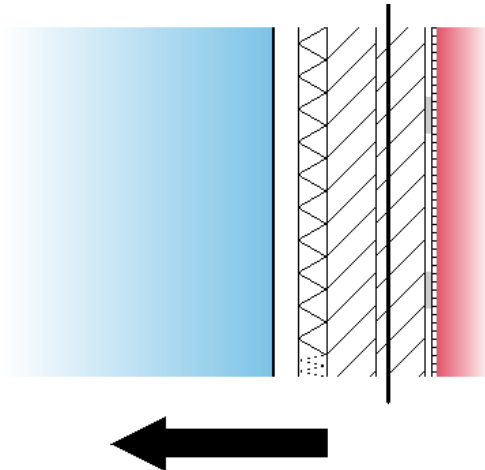
Heat capacity

Page 1/1

Source: **own catalogue**Component: **Brick, PUR cavity insul., DT ties, U=0.29 W/m²K**

OUTSIDE

INSIDE



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

Single material layers shown in the U-value calculation print out 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  $\lambda \leq 0.08 \text{ W}/(\text{mK})$ ).

Name	Thickness [m]	lambda [W/(mK)]	Q	Thermal capacity [kJ/(kgK)]	Q	Density [kg/m³]	Q	Thermal mass kJ/(m²K)	Criteria Exclusion	
<b>End of calculation - Cold</b>										
1	Brick outer leaf & Mortar outer leaf (f = 0.000 / automatic disregarding acc. BRE 4.4.3)	0.102	0.770	<b>D</b>	0.80	<b>D</b>	1700.0	<b>D</b>	<del>138.7</del>	A, -, -
2	Low E cavity - 50 mm, unventilated	0.050	0.113	<b>D</b>	1.01	<b>D</b>	1.3	<b>D</b>	<del>0.4</del>	A, -, -
3	Polyurethane - Variable thickness	0.060	0.025	<b>D</b>	1.40	<b>D</b>	30.0	<b>D</b>	<del>0.0</del>	A, -, -
4	Concrete block (dense) inner leaf (1800 kg/m³) & Mortar inner leaf (f = 0.000 / automatic disregarding acc. BRE 4.4.3)	0.028	1.130	<b>D</b>	1.00	<b>D</b>	1800.0	<b>D</b>	<del>49.5</del>	A, -, -
4	Concrete block (dense) inner leaf (1800 kg/m³) & Mortar inner leaf (f = 0.000 / automatic disregarding acc. BRE 4.4.3)	0.073	1.130	<b>D</b>	1.00	<b>D</b>	1800.0	<b>D</b>	130.5	-, -, -
5	Inhomogeneous material layer consisting of:	0.015						3.6	-, -, -	
5a	Unventilated air layer: 15 mm, horiz. heat flow	80.00%	0.088	<b>D</b>	1.01	<b>D</b>	1.2	<b>D</b>	0.0	-, -, -
5b	Plaster dabs -Gypsum [1200 kg/m³]	20.00%	0.430	<b>D</b>	1.00	<b>D</b>	1200.0	<b>D</b>	3.6	-, -, -
6	Standard wallboard plasterboard	0.013	0.210	<b>D</b>	1.00	<b>D</b>	700.0	<b>D</b>	8.8	-, -, -
<b>Start of calculation - Warm</b>										
								<b>0.340</b>	<b>142.9</b>	

## Heat capacity = 142.9 kJ/(m²K)

The following exclusion criteria apply:

- A .. The total thickness of the layers exceed 0.1 m.
- C .. An insulating layer is reached (defined as  $\lambda \leq 0.08 \text{ W}/(\text{mK})$ ).

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.