



Documentation of the component  
Thermal transmittance (U-value) according to BS EN ISO 6946

28. October 2007  
Page 1/1

Source: **own catalogue**  
Component: **New external wall**

OUTSIDE

INSIDE



### Assignment: External wall

	Manufacturer	Name	Thickness [m], number	Lambda [W/(mK)]	Q	R [m²K/W]
		Rse				0.04
<input checked="" type="checkbox"/>	1	BS EN 12524	Timber [500 kg/m³]	0.150	0.130	<b>D</b> 1.15
<input checked="" type="checkbox"/>	2	Celotex Ltd.	Celotex tuff-R GA3000Z	0.090	0.023	<b>B</b> 3.91
		Fixings	Vertical Twist stainless steel No./m²:	2.5/m²	17.000	<b>D</b> -
		Air gaps	Level 1: dU" = 0.01 W/(m²K)			
<input checked="" type="checkbox"/>	3	BS EN 12524	Breather membrane	0.000	0.170	<b>D</b> 0.00
<input checked="" type="checkbox"/>	4	BS EN 12524	Timber [500 kg/m³]	0.025	0.130	<b>D</b> 0.19
		Rsi				0.13
			<b>0.265</b>			

$$R_T = R_{si} + \sum R_i + R_{se} = 5.43 \text{ m}^2\text{K/W}$$

Correction to U-value for	according to	delta U [W/(m²K)]
Mechanical fasteners	BS EN ISO 6946 Annex D	0.020
Air gaps	BS EN ISO 6946 Annex D	0.005
		0.026

$$U = 1/R_T + \sum \Delta U = 0.21 \text{ W/(m}^2\text{K)}$$

- 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.

$$U_{\max} = \boxed{0.30 \text{ W/(m}^2\text{K)}}$$

$$U = \boxed{0.21 \text{ W/(m}^2\text{K)}} \quad R_T = \boxed{5.43 \text{ m}^2\text{K/W}}$$

Source of U<sub>max</sub> value: Scotland: Approved Document J (2001), Table 1 to J3.2 - dwellings, column A  
Gas or oil central heating with boiler SEDBUK not less than the relevant entry in Table 2 to J3.2