

Summary of U Value Calculation

Undertaken by Amanda Tyas, of Garrard Windows
Reference Number: A Rated Spec



Liniar Window: T & T (4.1)

Calculation Date: 2018-01-08

Calculated following the principles of EN ISO 10077-1:2006

Basic Dimensions

Width of Opening: 1230 mm

Height of Opening: 1480 mm

Window Glazing Profile

Number of Spaces: 1 (Double Glazing)

Gas Temperature: 283.15 K (10°C)

Normal Emissivity of Internal Glass Surface: 0.89

Space	Width	Gas Type
1	20 mm	10% Air : 90% Argon

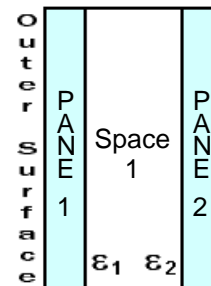
Space	e1	e2
1	0.89 (0.84 corr)	0.05 (0.06 corr)

Pane	Thickness
1	4 mm
2	4 mm

Total Thickness of Glazing: 28 mm

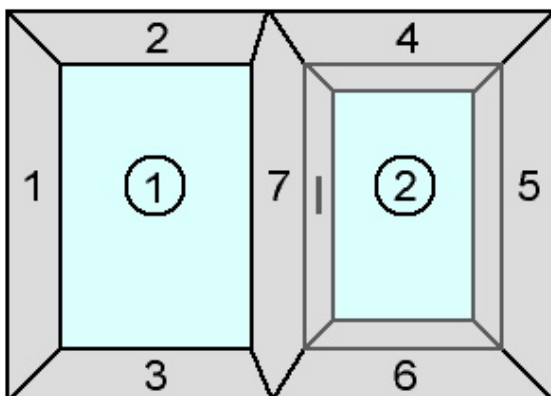
External Heat Transfer Coefficient: 25 W/m².K

Internal Heat Transfer Coefficient: 7.7 W/m².K



Configuration of Unit: Frame & Pane Areas

Numbers on each frame edge correspond to the Frame Side in the frame table on the next page, and Circled Numbers refer to the Pane in the panes table.



Summary of U Value Calculation (ctd)



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Window Frame

Side	A f,i	A f,e	A frame	Int. Frame W	Ext. Frame W	U frame
1	0.081 m ²	0.081 m ²	0.081 m ²	57 mm	57 mm	1.20 W/m ² .K
2	0.032 m ²	0.032 m ²	0.032 m ²	57 mm	57 mm	1.20 W/m ² .K
3	0.032 m ²	0.032 m ²	0.032 m ²	57 mm	57 mm	1.20 W/m ² .K
4	0.057 m ²	0.057 m ²	0.057 m ²	111 mm	111 mm	1.37 W/m ² .K
5	0.152 m ²	0.152 m ²	0.152 m ²	111 mm	111 mm	1.53 W/m ² .K
6	0.057 m ²	0.057 m ²	0.057 m ²	111 mm	111 mm	1.37 W/m ² .K
7	0.168 m ²	0.168 m ²	0.168 m ²	121 mm	121 mm	1.66 W/m ² .K

$$\Sigma A_{\text{frame}} : 0.580 \text{ m}^2$$

$$\Sigma A_{\text{frame}} : U_{\text{frame}} : 0.843 \text{ W/K}$$

Window Panes

Pane	Type	A panel	U panel	Perimeter	Spacer	PSI
1	Glass	0.712 m ²	1.219 W/m ² .K	3.774 m	Thermobar	0.032 W/m.K

Pane	Type	A panel	U panel	Perimeter	Spacer	PSI
1	Glass	0.712 m ²	1.219 W/m ² .K	3.774 m	Thermobar	0.032 W/m.K
2	Glass	0.528 m ²	1.219 W/m ² .K	3.356 m	Thermobar	0.032 W/m.K

$$\Sigma A_{\text{pane}} : 1.240 \text{ m}^2$$

$$\Sigma A_{\text{pane}} \cdot U_{\text{pane}} : 1.512 \text{ W/K}$$

$$\Sigma l_{\text{pane}} \cdot \Psi_{\text{pane}} : 0.228 \text{ W/K}$$

Total Thermal Conductance of Glazing: 1.54W/m².K

No cross bars and no attached bars: 0 W/m².K

Final U Value for Unit: 1.4 W/m².K