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Wood-Aluminium · Systems · Windows · Façades

TA35 SE FB | TABLE HEAT TRANSFER COEFFICIENT

GENERAL BASICS FOR CALCULATION

Calculation Uw Element Size 1.135 mm x 2.325 mm

Basics for Calculation:

DIN EN ISO 10077-1, DIN EN ISO 10077-2, DIN EN 13947

DIN 4108, DIN EN 673

Basis of calculation is standard frame widths.

If the proportion of the glass surface increases in relation to the frame surface, the Uw-value improves.

The assignment of the types of wood to the thermal conductivities (TC) is made according to DIN EN ISO 10077-2 [2012-06].

Formula for Calculation:

$$\frac{\Sigma (A_g \times U_g) + \Sigma (A_f \times U_f) + \Sigma (l_g \times \Psi_g) + \Sigma (A_p \times U_p)}{\Sigma (A_g + A_f + A_p)}$$

DEFINITIONS VARIABLES

Glass Surface	A_g
Frame Surface	A_f
Panel Surface	A_p
Length Edge Seal	L_g
Heat Transfer Coefficient of Glass	U_g
Heat Transfer Coefficient of Frame	U_f
Heat Transfer Coefficient of Panel	U_p
Heat Transfer Coefficient of Edge Seal	Ψ_g

BASICS FOR CALCULATION U-VALUES

Plastic Edge Seal Double Insulated Glazing	0,040 W/mK
Plastic Edge Seal Triple Insulated Glazing	0,035 W/mK
Heat Insulation Panel	0,035 W/mK

TYPE OF WOOD CLASS	PROFILING	UF W/(M²K)	UG 0,7/ TRIPLE, ISO	UG 0,6/ TRIPLE, ISO	UG 0,5/ TRIPLE, ISO
1 - TC=0,110 W/(m²K)	68 / 30	0,76	0,80	0,73	0,66
Fir, Spruce	78 / 30	0,72	0,78	0,72	0,65
Silver Fir	88 / 30	0,69	0,78	0,71	0,64
2 - TC=0,130 W/(m²K)	68 / 30	0,82	0,82	0,75	0,68
Pine, Douglas Fir	78 / 30	0,77	0,80	0,73	0,66
Larch, Hemlock	88 / 30	0,74	0,79	0,72	0,65
3 - TC=0,160 W/(m²K)	68 / 30	0,87	0,83	0,76	0,69
Meranti, Teak	78 / 30	0,82	0,82	0,75	0,68
Eucalyptus	88 / 30	0,78	0,80	0,73	0,66
4 - TC=0,180 W/(m²K)	68 / 30	0,90	0,84	0,77	0,70
Oak	78 / 30	0,85	0,82	0,75	0,68
White Oak	88 / 30	0,81	0,81	0,74	0,67

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