Calculation SommerGlobal

Project: 2023_03_07
Position:

Layer composition (outside to inside)

Number	BE	Description	mm
1		EUROFLOAT	4,00
2	2	SILVERSTAR EN2plus (εn=3%)	
3		90% Argon	18,00
4		EUROFLOAT	4,00
5		90% Argon	18,00
6	5	SILVERSTAR EN2plus (εn=3%)	
7		EUROFLOAT	4,00
			48,00

Transmission, reflexion, absorption

ρ_v = 0,14 (Light reflection factor outside)

ρ'_v = 0,14 (Light reflection factor inside)

ρ_e = 0,29 (direct radiation reflection factor outside)

ρ'_e = 0,29 (direct radiation reflection factor inside)

T_{UV} = **0,16** (ultraviolet transmittance)

T_v = **0,74** (Light transmission)

T_e = **0,45** (direct radiation transmission factor)

R_a = 97 (general color rendering index (CRI))

α_e 1 = 0,16; 3 = 0,04; 5 = 0,06 (direct radiation absorption factor)

EN 410

SC = 0,60 (Shading Coefficient, g/0,87)

b-Faktor = 0,66 (VDI 2078, g/0,80)

q_i = **0,08** (secondary heat inside)

g = **0,53** (Total energy transmission factor)

EN 673 Installation angle = 90° vertical

Ug = **0,52 W/m²K** (Heat transfer coefficient)
Corrected emissivity according to EN 12898:2019

EN ISO 52022-3 T_e = 5,00 °C T_i = 20,00 °C E_s = 300,00 W/m² System height = 1,50 m

g_{th} = 0,044 (Thermal radiation factor)

$h_{c,e}$ = 18,00 W/m²K $h_{c,i}$ = 3,60 W/m²K

g_c = 0,033 (Convection factor)

q_i = **0,076** (secondary heat inside)

g_v = 0,000 (Ventilation factor)

g_{tot} = **0,52** (Total energy transmission factor)

Attention, the representation of the Ug value is not standard compliant. According to EN 1279-5 multi-pane insulating glass - Part 5: Conformity assessment, the Ug value according to EN 673 is to be calculated. According to 9.1 of this standard, the calculated U-value must be rounded to one decimal place. The Uw value of a window is according to EN ISO 10077-1 et al. calculated from the Ug value of the glazing.

Fluctuations of light and radiation technical values for the chemical composition of glass and manufacturing process possible. Function values take into account the permitted tolerances according to the product standards. The calculation-result does not give information about the technical practicability of this construction.
We point out that the calculations were created on the basis of the manufacturers' spectral data. The company Sommer Informatik GmbH assumes no liability for the integrity of the manufacturers' data. For the declaration of performance the manufacturers' data placed at the disposal has to be confirmed separately.

EN 410, EN 673, EN ISO 52022-3, EN 12898:2019

ift-certified It. validation report no. 410 42167 (status as of 11/2009)
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