

Calculation SommerGlobal Double insulating glass

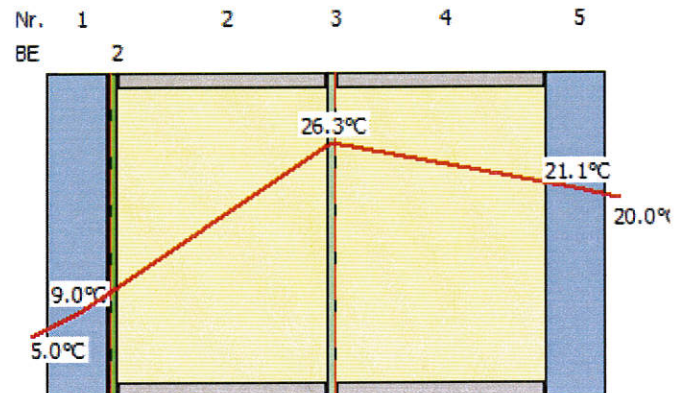
Project: 2015_04_27

Position: 01

Layer composition (outside to inside)

Number	BE	Denomination	mm
1		Standard	6,00
2	2	PLANITHERM ONE ($\epsilon_n=1\%$)	
3		90% Argon	20,00
4		Heat Mirror™ Solar Control 75 Suspended Film	0,08
5		90% Argon	20,00
6		PLANICLEAR	6,00
			52,08

Rw (C;Ctr) dB = npd



Transmission, reflexion, absorption

$\rho_v = 0,27$ (Light reflection factor outside)

$\rho'_v = 0,23$ (Light reflection factor inside)

$\rho_e = 0,42$ (direct radiation reflection factor outside)

$\rho'_e = 0,43$ (direct radiation reflection factor inside)

α_e 1 = 0.20; 3 = 0.10; 5 = 0.01 (direct radiation absorption factor)

$T_{UV} = 0,00$ (ultraviolet transmittance)

$T_v = 0,55$ (Light transmission factor)

$T_e = 0,27$ (direct radiation transmission factor)

$R_a = 94$ (general color rendering index (CRI))

EN 410

SC = 0,38 (Shading Coefficient, g/0,87)

b-Faktor = 0,42 (VDI 2078, g/0,80)

$q_i = 0,06$ (secondary heat inside)

$g = 0,33$ (Total energy transmission factor)

EN 673 Installation angle = 90° vertikal

$U_g = 0,5$ W/m²K (Heat transfer coefficient)

EN 13363-2 $T_e = 5,00$ °C $T_i = 20,00$ °C

$E_s = 300,00$ W/m² System = 1,50 m

$h_{c,e} = 18$ W/m²K $h_{c,i} = 3.6$ W/m²K

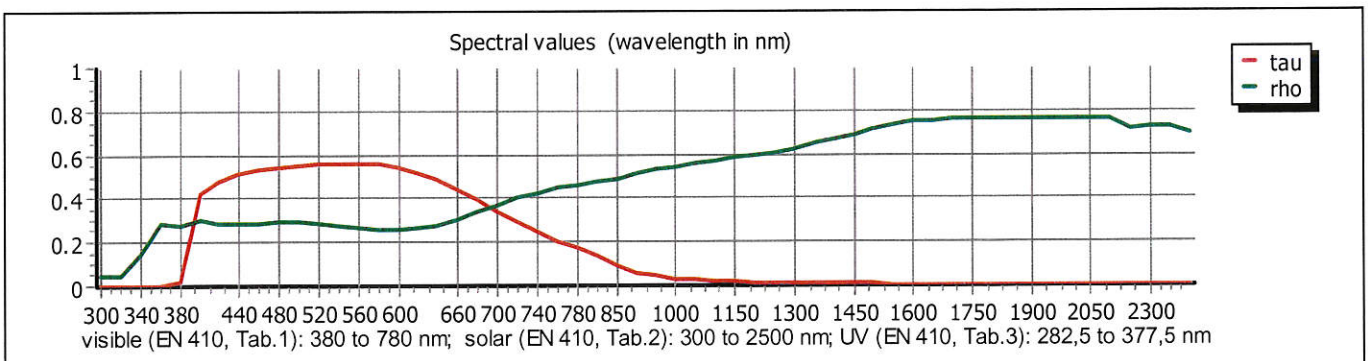
$g_{th} = 0,032$ (Thermal radiation factor)

$g_c = 0,024$ (Convection factor)

$g_v = 0,000$ (Ventilation factor)

$q_i = 0,056$ (secondary heat inside)

$g = 0,33$ (Total energy transmission factor)



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 13363-2

Declaration of performance

Nr. 00000001

1. Product Double insulating glass
2. Type
3. Purpose
4. Producer
5. Authorised representative
6. System for evaluating the performance stability
7. Harmonized product standard EN 1279-5:2005+A2:2010
8. Notified body
9. Declared performance

Main feature	Power/class	Harmonized specification
Fire resistance	npd	EN 1279-5:2005+A2:2010, 4.3.2.2
Fire behaviour	npd	EN 1279-5:2005+A2:2010, 4.3.2.3
External fire performance	npd	EN 1279-5:2005+A2:2010, 4.3.2.4
Bullet proof	npd	EN 1279-5:2005+A2:2010, 4.3.2.5
Explosion resistance	npd	EN 1279-5:2005+A2:2010, 4.3.2.6
Burglary resistance	npd	EN 1279-5:2005+A2:2010, 4.3.2.7
Pendulum body impact resistance test	npd	EN 1279-5:2005+A2:2010, 4.3.2.8
Durability against sudden and heavy changes in temperature	npd	EN 1279-5:2005+A2:2010, 4.3.2.9
Resistance against wind, snow, continuous and/or payload	6-20-6	EN 1279-5:2005+A2:2010, 4.3.2.10
	npd	
	npd	
	npd	
Sound reduction R_w (C;Ctr) dB	npd	EN 1279-5:2005+A2:2010, 4.3.2.11
Heat transfer coefficient U_g	0.5 W/(m ² K)	EN 1279-5:2005+A2:2010, 4.3.2.12
Light transmission factor τ_v	0.55	EN 1279-5:2005+A2:2010, 4.3.2.13
Light reflection factor outside ρ_v	0.27	EN 1279-5:2005+A2:2010, 4.3.2.14
Solar energy characteristics		
Total energy transmission factor g	0.33	EN 1279-5:2005+A2:2010, 4.3.2.14
direct radiation transmission factor τ_e	0.27	EN 1279-5:2005+A2:2010, 4.3.2.14
direct radiation reflection factor ρ_e	0.42	EN 1279-5:2005+A2:2010, 4.3.2.14
ultraviolet transmittance τ_{UV}	0.00	EN 1279-5:2005+A2:2010, 4.3.2.14
general color rendering index (CRI) R_a	94	EN 1279-5:2005+A2:2010, 4.3.2.13
Shading Coefficient = $g/0,87$ SC	0.38	EN 1279-5:2005+A2:2010, 4.3.2.14
b-Factor (VDI 2078, $g/0,80$)	0.42	EN 1279-5:2005+A2:2010, 4.3.2.14

The performance of the product according to the Number 1 and 2 corresponds to the declared performance by number 9. Only the producer according to Number 4 is responsible for the issue of the declaration of performance.

Signed on behalf of the manufacturer and in the name of the manufacturer of:

27/04/2015



27.04.2015

year: 2014
Product: Double insulating glass
Nr. 00000001
EN 1279-5:2005+A2:2010

Fire resistance	npd
Fire behaviour	npd
External fire performance	npd
Bullet proof	npd
Explosion resistance	npd
Burglary resistance	npd
Pendulum body impact resistance test	npd
Durability against sudden and heavy changes in temperature	npd
Resistance against wind, snow, continuous and/or payload	6-20-6
	npd
	npd
	npd
Sound reduction	Rw (C;Ctr) dB npd
Heat transfer coefficient	U_g 0.5 W/(m²K)
Light transmission factor	T_V 0.55
Light reflection factor outside	e_V 0.27
Solar energy characteristics	
Total energy transmission factor	g 0.33
direct radiation transmission factor	T_e 0.27
direct radiation reflection factor	e_e 0.42
ultraviolet transmittance	T_{UV} 0.00
general color rendering index (CRI)	R_a 94
Shading Coefficient = g/0,87	SC 0.38
b-Factor (VDI 2078, g/0,80)	0.42