

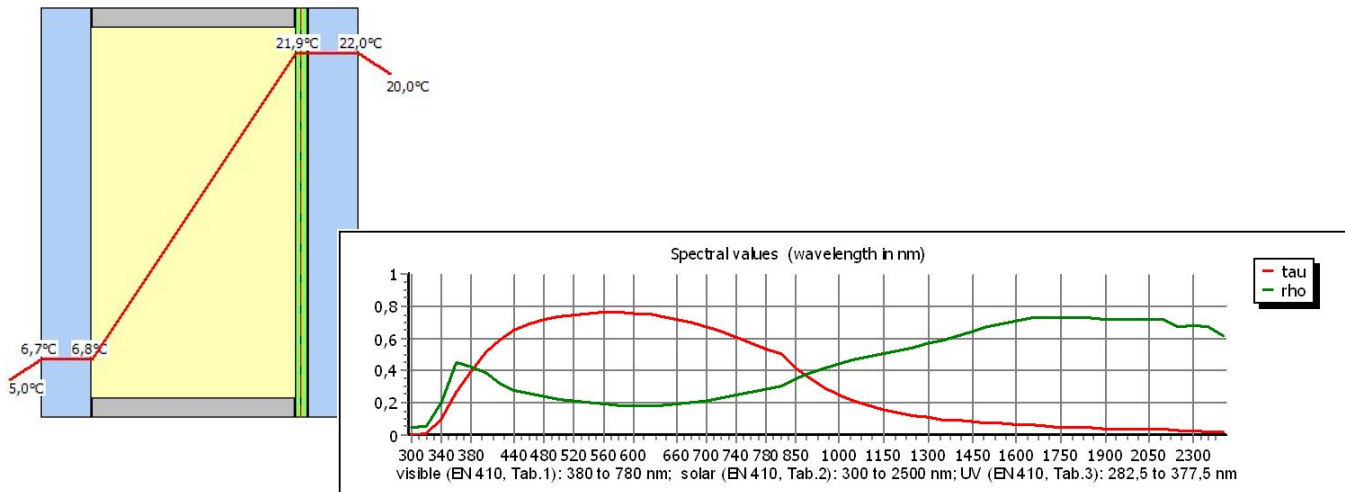


Sommer Informatik GmbH



WinSLT

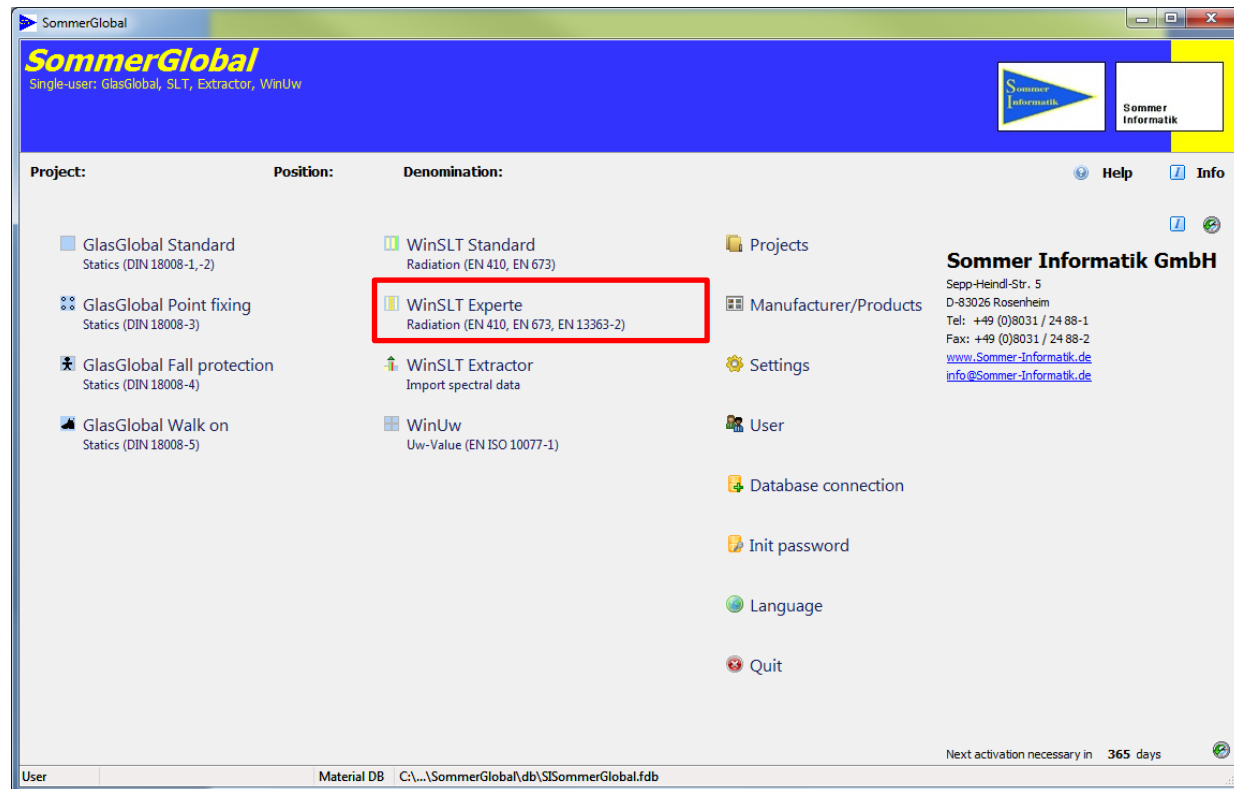
The software for calculating heat transfer coefficients, solar radiation and light transmittance





Start project

To start a project,
please open WinSLT in
the start menu





Program structure

Toolbar

Project details

Details

The program can be splitted in 5 parts

Object data

Construction

The screenshot shows the software interface with several panels highlighted by colored boxes and labels:

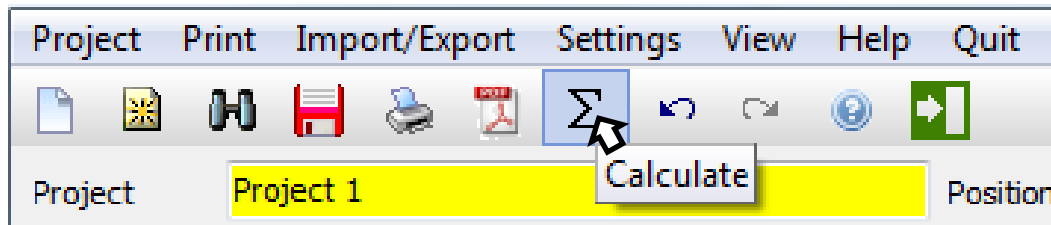
- Menu Bar:** Project, Print, Import/Export, Settings, View, Help, Quit (highlighted in red).
- Project Details:** Project 1, Position 02, Installation angle 90,00°, System height 1,50 m, User ADMIN.
- Object data:** A tree view showing categories like Product, Silkscreen glass, and Settings.
- Construction:** A diagram showing a cross-section of a window with layers and arrows indicating light transmission and reflection.
- Details:** A panel showing project details, layer composition, and layer info.

Nr	BE	Denomination	Thickness (mm)
<input checked="" type="checkbox"/>	1	Standard	4,00
<input checked="" type="checkbox"/>	2	90% Argon	16,00
<input checked="" type="checkbox"/>	3	Ultra N (en=3%)	0,00
<input checked="" type="checkbox"/>	4	Standard	4,00

Name	Standard
Thickness (mm)	4,00
e(eff)	0,8370
e(eff)	0,8370
Thermal conductivity (W / mK)	1,000
Tau (VIS)	0,901
Rho' (VIS)	0,081
Rho' (VIS)	0,081
Tau (SOL)	0,850
Rho (SOL)	0,076
Rho' (SOL)	0,076

Program structure

- basic functions can be found in the toolbar
- if your cursor is on one symbol, a hint will display to explain the function





Select program details

- program information and designations can be set on the top of the project
- you will also find the results of the calculation below the details

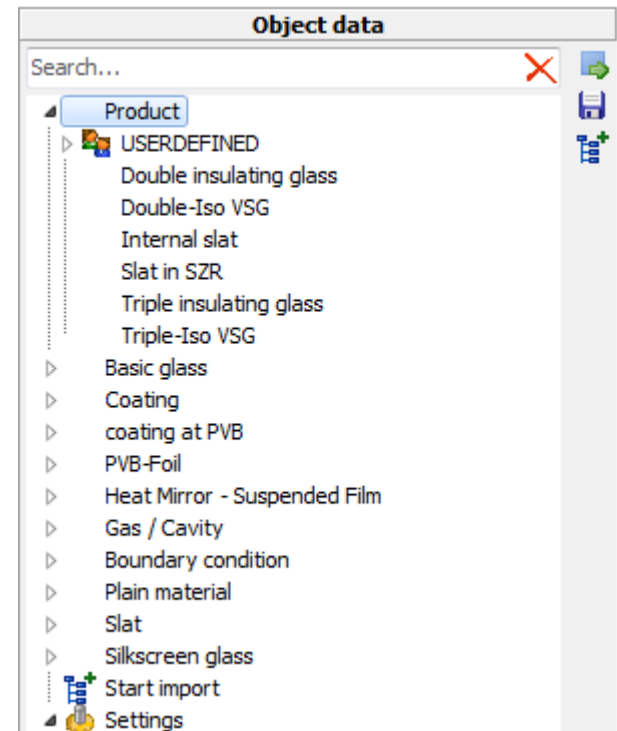
Project	Project 1	Position	02	Installation angle	90,00 ° vertikal	Date	
Denomination	Double insulating glass	Group		System height	1,50 m (<= 3m)	User	ADMIN
Sprache LE	english	Template LE		Rw (C; Ctr)	0 (0 ; 0) dB		
Remark							

τ_v **0,80** (Lighttransmission) ρ_v **0,12** (Lightreflection outside) g (EN 410) **0,64** U_g (W/m²K) **1,1** (1,13) g (EN 13363-2) **0,64**



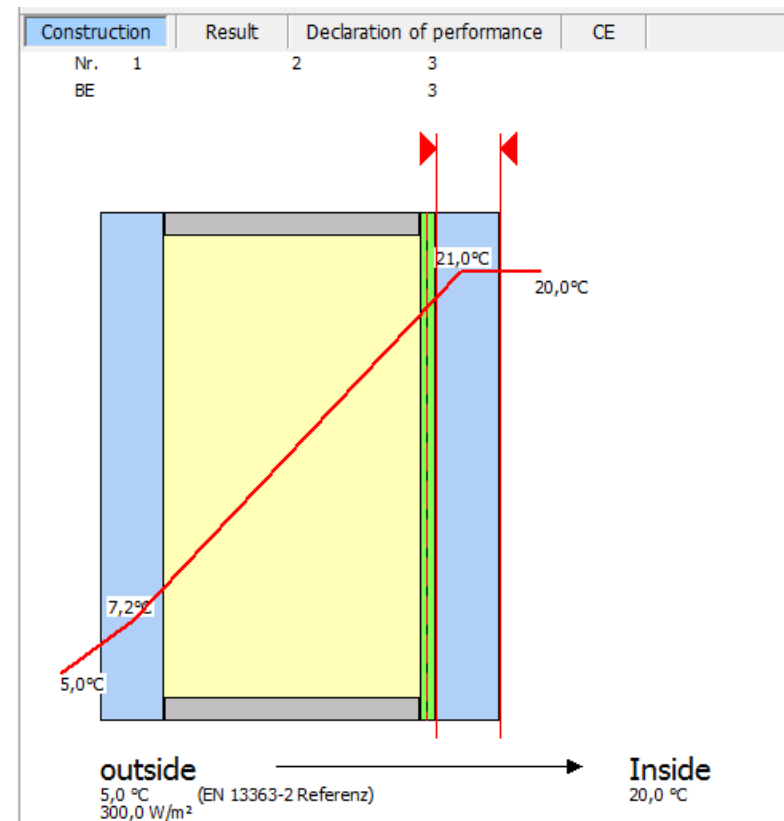
Object data

- the different materials and components can be found in the object data
- it is helpful to go through the categories one after another
- in case of there is no suitable material, you can also create userdefined components



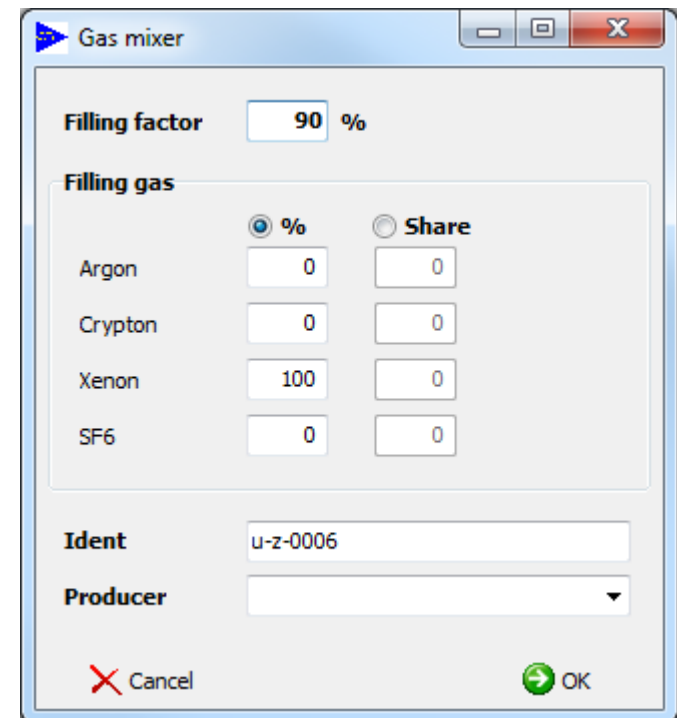
Construction

- the products can be add to the construction with a double click or drag'n'drop
- the construction is displayed graphically
- thickness can be changed with a double click on the layer
- more functions can be selected with a right mouse click



Space gap

- the gas mixer allows the creation of individually gases
- the filling factor can be changed
- the user defined gas can be found in the object data and is available for the use in other projects



The screenshot shows a 'Gas mixer' dialog box with the following fields and controls:

- Filling factor:** A text box containing '90' followed by a '%' symbol.
- Filling gas:** A section with two radio buttons: '%', which is selected, and 'Share'.
- Gas list:** A table with four rows: Argon, Crypton, Xenon, and SF6. Each row has two input boxes for values.
- Ident:** A text box containing 'u-z-0006'.
- Producer:** A dropdown menu.
- Buttons:** 'Cancel' (with a red X icon) and 'OK' (with a green arrow icon).

Gas	%	Share
Argon	0	0
Crypton	0	0
Xenon	100	0
SF6	0	0



Details

- details of the construction can be seen on the right
- the different constructions are listed and can be opened with a double click to edit or view the project
- layer compositions can be add or taken out for calculations by setting the check mark
- layer info shows the parameters for the selected layer

Details						
Project 1						
Pos	Denomination	Ug	g	tv	LE	
01	Double insulating gl:	1,1	0,64	0,80	00000066	
02	Double insulating gl:	1,1	0,64	0,80		

Layer composition			
Nr	BE	Denomination	Thickness (mm)
<input checked="" type="checkbox"/>	1	Standard	4,00
<input checked="" type="checkbox"/>	2	90% Argon	16,00
<input checked="" type="checkbox"/>	3	Ultra N (en=3%)	0,00
<input checked="" type="checkbox"/>	4	Standard	4,00

Total thickness	24,00
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Layer info	
Name	Standard
Thickness (mm)	4,00
e(eff)	0,8370
e(eff')	0,8370
Thermal conductivity (W / mK)	1,000
Tau (VIS)	0,901
Rho (VIS)	0,081
Rho' (VIS)	0,081
Tau (SOL)	0,850
Rho (SOL)	0,076
Rho' (SOL)	0,076



Result

- a clearly arranged printout shows all values on one sheet
- graphics for spectral data and the glazing with its temperatures makes it more easy to analyze your project

Calculation SommerGlobal Double insulating glass

Project:
Position: 01

Layer composition (outside to inside)

Number	BE	Denomination	mm
1		Standard	4,00
2		90% Argon	16,00
3	3	Ultra N (ε=3%) *	
4		Standard	4,00
* USERDEFINED			24,00

Rw (C;Cb) dB = npd

Transmission, reflexion, absorption

$\rho_V = 0,12$ (Light reflection factor outside)

$\rho'_V = 0,11$ (Light reflection factor inside)

$\rho_E = 0,26$ (direct radiation reflection factor outside)

$\rho'_E = 0,26$ (direct radiation reflection factor inside)

α_E 1 = 0,10; 3 = 0,09 (direct radiation absorption factor)

EN 410

SC = 0,73 (Shading Coefficient, g/0,87)

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

EN 673 Installation angle = 90° vertikal

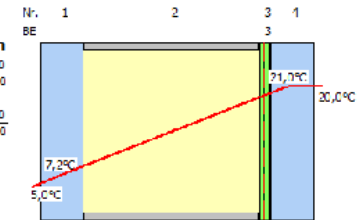
EN 13363-2 $T_E = 5,00$ °C $T_i = 20,00$ °C

$g_{th} = 0,047$ (Thermal radiation factor)

$g_c = 0,035$ (Convection factor)

$g_v = 0,000$ (Ventilation factor)

Benutzerdefinierte Materialien werden verwendet.



$T_{UV} = 0,32$ (ultraviolet transmittance)

$T_V = 0,81$ (Light transmission)

$T_E = 0,56$ (direct radiation transmission factor)

$R_a = 98$ (general color rendering index (CRI))

α_E 1 = 0,10; 3 = 0,09 (direct radiation absorption factor)

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

$g = 0,64$ (Total energy transmission factor)

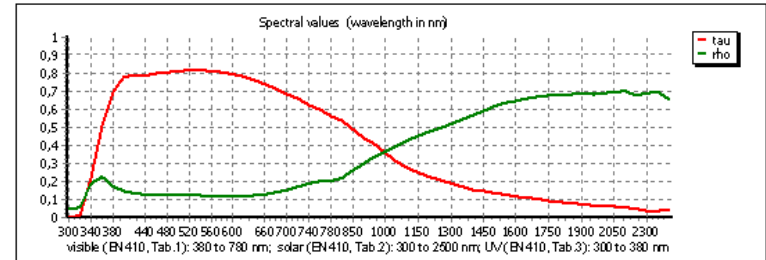
$U_g = 1,1$ W/m²K (heat transfer coefficient)

$E_S = 300,00$ W/m² System = 1,50 m

$h_{c,e} = 18$ W/m²K $h_{c,i} = 3,6$ W/m²K

$q_i = 0,082$ (secondary heat inside)

$g = 0,64$ (Total energy transmission factor)





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Building physics highlights of the Sommer Informatik GmbH:

- [WinIso 2D](#) – Calculation of two-dimensional heat flow
- [WinSLT](#) – Professional Software for light transmission
- [GlasGlobal](#) – Glass statics according to DIN 18008
- [WinIso 3D](#) – Calculation of three-dimensional heat flow