

Reference values for shading factors

Window awnings - external

Der SonnenLicht Manager



Basics

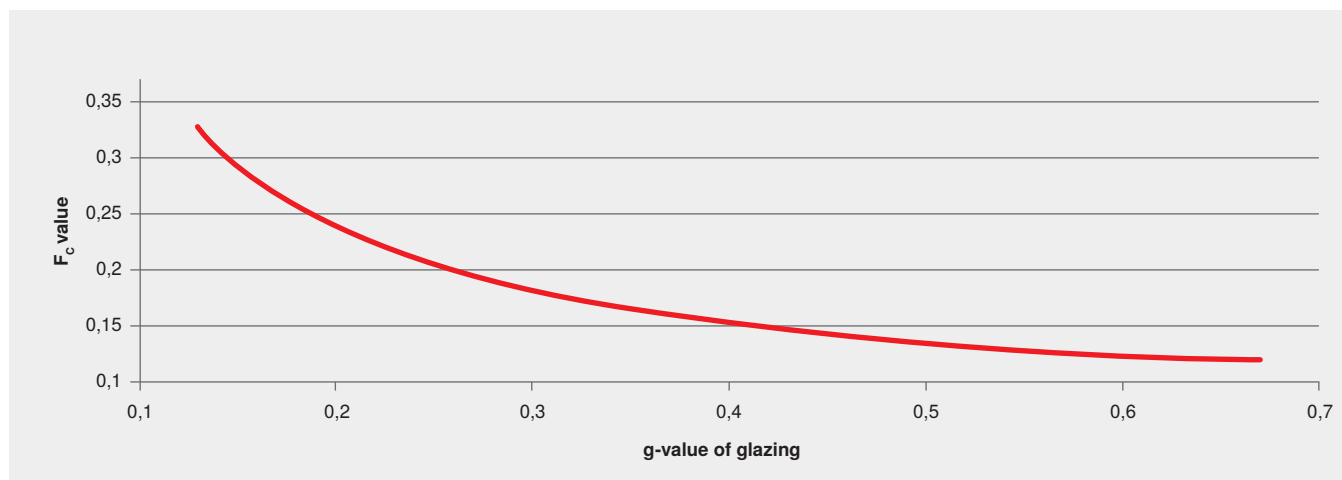
The calculation of the protection against overheating value includes the **total solar energy transmittance g_{tot}** for the combination of sun shading system and glazing or the **shading factor F_c** .

The F_c value is equal to the ratio of the total solar energy transmittance of the sun shading system and glazing combination to the g-value of the glazing:

$$F_c = \frac{g_{tot}}{g}$$

The glazing is thus also always included in the calculation of the F_c value. This means that it is also not possible to state a fixed F_c value for a sun shading product.

WAREMA Soltis Veozip 3787, $U_g=0.6 \text{ W}/(\text{m}^2\text{K})$



Shading factor F_c depending on the g-value. The calculation was performed for the Soltis Veozip design 3787. The U_g value of the glazing was taken to be $0.6 \text{ W}/(\text{m}^2\text{K})$.

Calculations for Building Projects

For calculations of the g_{tot} and F_c values of project-specific combinations of the sun shading system and glazing, please contact the Building Physics and Sustainable Building hotline:

Phone: +49 9391 20-3025

E-mail: bauphysik@warema.de

You can find reference values on the following pages

For the first estimates, you will find reference values for g_{tot} and F_c values for various designs of different fabric types and for various glazings on the following pages. Please note that the values for external fabrics parallel to the glazing apply.

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Window awnings with triple glazing

Reference values for the combination with a triple heat protection glazing with **g=0.53** and **U_g=0.5 W/(m²K)**

Fabric	Design	Colour	g _{tot}	F _c
Screen fabric	3511	White	0.13	0.25
	3519	light grey	0.10	0.19
	3517	Dark grey	0.06	0.11
	3532	Black	0.06	0.11
Soltis Veozip	3784	White/light grey	0.07	0.13
	3787	Beige	0.06	0.11
	3793	Grey/blue	0.07	0.13
	3798	Black	0.07	0.13
Soltis 92	690	White	0.10	0.19
	272	light grey	0.08	0.15
	045	Dark metal	0.05	0.09
	176	Black	0.06	0.11
Twilight Pearl	8740	White	0.13	0.25
	8746	Beige	0.09	0.17
	8743	Dark grey	0.07	0.13
	8745	Black	0.05	0.09
WAREMA SecuTex fabric A2	44500	White	0.07	0.13
	44501	Silver	0.05	0.09
	44502	Dark grey	0.06	0.11
	44505	Black	0.06	0.11

The values are calculated according to **DIN EN 13363-1:2007-09/DIN EN ISO 52022-1:2018-01**.

The light and radiation values of a sun shading system are determined by the supplier or by an independent testing institute and are considered to be guidelines. Tolerances in the measurement procedure and batch-related variations from the samples can lead to deviations in the determined values, and in the values calculated from these, for which we cannot assume liability.

If you have any questions, you can contact the Building Physics and Sustainable Building hotline:
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www.warema.com • info@warema.de

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Window awnings with triple glazing

Reference values for the combination with a triple heat protection glazing with **g=0.53** and **U_g=0.7 W/(m²K)**

Fabric	Design	Colour	g _{tot}	F _c
Screen fabric	3511	White	0.13	0.25
	3519	light grey	0.11	0.21
	3517	Dark grey	0.07	0.13
	3532	Black	0.08	0.15
Soltis Veozip	3784	White/light grey	0.07	0.13
	3787	Beige	0.07	0.13
	3793	Grey/blue	0.08	0.15
	3798	Black	0.08	0.15
Soltis 92	690	White	0.11	0.21
	272	light grey	0.09	0.17
	045	Dark metal	0.06	0.11
	176	Black	0.07	0.13
Twilight Pearl	8740	White	0.14	0.26
	8746	Beige	0.10	0.19
	8743	Dark grey	0.08	0.15
	8745	Black	0.07	0.13
WAREMA SecuTex fabric A2	44500	White	0.08	0.15
	44501	Silver	0.06	0.11
	44502	Dark grey	0.07	0.13
	44505	Black	0.07	0.13

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Window awnings with triple glazing

Reference values for the combination with a triple heat protection glazing with $g=0.37$ and $U_g=0.6 \text{ W/(m}^2\text{K)}$

Fabric	Design	Colour	g_{tot}	F_c
Screen fabric	3511	White	0.10	0.27
	3519	light grey	0.09	0.24
	3517	Dark grey	0.06	0.16
	3532	Black	0.06	0.16
Soltis Veozip	3784	White/light grey	0.06	0.16
	3787	Beige	0.06	0.16
	3793	Grey/blue	0.07	0.19
	3798	Black	0.07	0.19
Soltis 92	690	White	0.08	0.22
	272	light grey	0.07	0.19
	045	Dark metal	0.05	0.14
	176	Black	0.06	0.16
Twilight Pearl	8740	White	0.10	0.27
	8746	Beige	0.08	0.22
	8743	Dark grey	0.07	0.19
	8745	Black	0.06	0.16
WAREMA SecuTex fabric A2	44500	White	0.06	0.16
	44501	Silver	0.05	0.14
	44502	Dark grey	0.06	0.16
	44505	Black	0.06	0.16

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Window awnings with double glazing

Reference values for the combination with a double heat protection glazing with $g=0.64$ and $U_g=1.1 \text{ W/(m}^2\text{K)}$

Fabric	Design	Colour	g_{tot}	F_c
Screen fabric	3511	White	0.16	0.25
	3519	light grey	0.14	0.22
	3517	Dark grey	0.09	0.14
	3532	Black	0.10	0.16
Soltis Veozip	3784	White/light grey	0.09	0.14
	3787	Beige	0.10	0.16
	3793	Grey/blue	0.11	0.17
	3798	Black	0.11	0.17
Soltis 92	690	White	0.13	0.20
	272	light grey	0.11	0.17
	045	Dark metal	0.08	0.13
	176	Black	0.10	0.16
Twilight Pearl	8740	White	0.17	0.27
	8746	Beige	0.13	0.20
	8743	Dark grey	0.11	0.17
	8745	Black	0.09	0.14
WAREMA SecuTex fabric A2	44500	White	0.10	0.16
	44501	Silver	0.08	0.13
	44502	Dark grey	0.09	0.14
	44505	Black	0.10	0.16

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Window awnings with double glazing

Reference values for the combination with a double sun shading glazing with $g=0.37$ and $U_g=1.0 \text{ W/(m}^2\text{K)}$

Fabric	Design	Colour	g_{tot}	F_c
Screen fabric	3511	White	0.11	0.30
	3519	light grey	0.10	0.27
	3517	Dark grey	0.08	0.22
	3532	Black	0.09	0.24
Soltis Veozip	3784	White/light grey	0.07	0.19
	3787	Beige	0.08	0.22
	3793	Grey/blue	0.09	0.24
	3798	Black	0.09	0.24
Soltis 92	690	White	0.09	0.24
	272	light grey	0.08	0.22
	045	Dark metal	0.06	0.16
	176	Black	0.08	0.22
Twilight Pearl	8740	White	0.12	0.32
	8746	Beige	0.10	0.27
	8743	Dark grey	0.09	0.24
	8745	Black	0.08	0.22
WAREMA SecuTex fabric A2	44500	White	0.07	0.19
	44501	Silver	0.06	0.16
	44502	Dark grey	0.08	0.22
	44505	Black	0.08	0.22

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Window awnings with double glazing

Reference values for the combination with a double sun shading glazing with $g=0.28$ and $U_g=1.0 \text{ W/(m}^2\text{K)}$

Fabric	Design	Colour	g_{tot}	F_c
Screen fabric	3511	White	0.09	0.32
	3519	light grey	0.09	0.32
	3517	Dark grey	0.08	0.29
	3532	Black	0.09	0.32
Soltis Veozip	3784	White/light grey	0.06	0.21
	3787	Beige	0.07	0.25
	3793	Grey/blue	0.08	0.29
	3798	Black	0.09	0.32
Soltis 92	690	White	0.07	0.25
	272	light grey	0.07	0.25
	045	Dark metal	0.06	0.21
	176	Black	0.08	0.29
Twilight Pearl	8740	White	0.10	0.36
	8746	Beige	0.09	0.32
	8743	Dark grey	0.08	0.29
	8745	Black	0.08	0.29
WAREMA SecuTex fabric A2	44500	White	0.07	0.25
	44501	Silver	0.06	0.21
	44502	Dark grey	0.07	0.25
	44505	Black	0.08	0.29

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