SolarInnovate Energy Solutions

Double glass light transmission component parameters

Overview

What is the transmittance of glasses?

Often, glasses are discussed in terms of their transmittance or transmission. The same information is provided by both of these terms but transmission is reported with ranges from 0 % to 100 % and transmittance from 0 to 1.

What is the transmittance model of quartz glass?

The double thickness transmittance model n is the refractive index of quartz glass and the k is the absorption index of quartz glass. The light at each surface of the glass obeys Fresnel's law and Snell's law. Then the transmittance of quartz glass with thickness of L1 and L2 are shown in Eqs.

Do optical glasses have a high transmittance range?

Optical glasses are optimized to provide excellent transmittance throughout the total visible range from 400 to 800 nm. Usually the transmittance range spreads also into the near UV and IR regions. As a general trend lowest refractive index glasses show high transmittance far down to short wavelengths in the UV.

What is the difference between emissivity and spectral transmittance?

Emissivity, back: the radiative heat exchange ability of the back side of a glass. Spectral transmittance: the fraction of radiation of a specific wavelength transmitted through a glass. Spectral reflectance, front: the fraction of radiation of a specific wavelength reflected by the front side of a glass.

Do low index glasses show high transmittance?

As a general trend lowest refractive index glasses show high transmittance far down to short wavelengths in the UV. Going to higher index glasses the UV absorption edge moves closer to the visible range. For highest index glass and larger thickness the absorption edge already reaches into the visible range.

Is weighted averaging of spectral transmittance reasonable?

If we use simple arithmetic averaging of spectral transmittance in the 380 nm – 780 nm range, the result is not reasonable, as there is more green light in natural daylight and human eyes are also more sensitive to green light. With weighted averaging, more weight is assigned to green light and less weights are assigned to other colors.

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The Effects of Luminaire Glass Type on Road Parameters in Road Lighting

For this purpose, luminaire glasses with different properties that can be used in road lighting were analysed according to their light transmittance of single glass (4 mm), double glass (4 mm), ...

The Effects of Luminaire Glass Type on Road Parameters in Road Lighting

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