

What is the transmittance of a single clear glass?

The transmittance of a single clear glass in the visible range (380-780 nm) is approximately 90%, as illustrated in Fig. 1 (b). Traditional windows with both high SHGC and visible light transmittance (τ_{vis}) are often the reasons for overheating and glare issues (Tällberg et al., 2019).

How much UV rays can a laminated glass absorb?

Laminated glasses can transmit only 0.4 % of UV, compared to 44 % for 10mm clear float glass. A second option is to use a body-tinted glass, which will filter light selectively : for example, yellow glass absorbs mainly violet and blue light. Thirdly, glass with a low solar factor could be used to reduce the thermal effect of the radiation.

What is the SHGC of a glass window?

The window has a SHGC of 0.86, which equals the solar transmittance (83%) of the glass plus the glass absorbed heat that is re-radiated to the indoor space (3%). The transmittance of a single clear glass in the visible range (380-780 nm) is approximately 90%, as illustrated in Fig. 1 (b).

What is a TT glazing unit?

Zhou et al. (2014) fabricated a TT glazing unit consisting of a micrometre thick PNIPAm hydrogel film (LCST = 32 °C) laminated between two pieces of glass, and measured its optical performance with respect to different film thicknesses (26, 52 and 78 μm).

What is a thermotropic hydrogel laminated between two glass panes?

The thermotropic hydrogel laminated between two glass panes was synthesised of HPC, water, sodium chloride and an amphipathic compound, the last of which acts as a spacer to avoid the irreversible sedimentation of HPC aggregates during phase separation.

Can CdTe glazing reduce energy consumption?

Taking the case of an office building with a WWR of 75% in Beijing's climate as an example, the result shows that replacing 80% of the clear-glass window area by the CdTe glazing can achieve a 67.9% reduction in annual total energy consumption.

When solar radiation strikes glass, it is partly reflected, partly absorbed in the thickness of the glass and partly transmitted. The ratio of each of these 3 parts to the incident solar radiation ...

UV-Transmitting Glass and Acrylic There are some excellent UVB-transmitting glass and acrylic sheets which can be used for glazing skylights, windows or even for glazing ...

When light meets a glass surface, some of the light is reflected, depending on the angle of incidence and the refractive indices of the glass and the medium the light is coming from (e.g., ...

The designed ACPCs allows the incident light within the range of acceptance angles (0° ;- 55°) to be efficiently collected for power generation, and in the meantime, allowing ...

New concentrating system can be well used in building integrated photovoltaics. This system can achieve light control and reduce indoor heat load. The minimum ...

After considerations and efforts, the inventors have found that glass compositions of the ultraviolet light transmitting glass within a specific range enables the glass to have higher...

This technique consists of transmitting high-power light from a high-power laser diode (HPLD) over optical fibers and performing the optical-to-electrical (O/E) conversion by ...

The absorption of light in lenses is classified by two variables. First of all, is the amount of tint, and lens transmission. The amount of light transmitted through a lens is directly related to the ...

The ratio of the difference in visible transmission of the glass before and after installing film to the visible transmission of the glass with no film. Expressed as a percentage and is determined by ...

Solar Performance of Glass in the glass type. As this fragmentation accounts for 100% of the energy, the sum of the reflection, absorption and transmission is equal. Simply expressed: $R + A + T = 100\%$...

The low glass transition temperature of soft-glass fibers means greater dimensional changes and higher strain when the temperature changes, altering the transmission of guided light.

In this regard, a novel light-transmitting cementitious composite (LTCC) was developed by substituting microencapsulated phase change material (MPCM) to reduce the ...

Acrylit High Performance provides outstanding strength thanks to a proprietary integrated formulation of 100% Acrylic resin with additional Woven Roving glass technology.

This paper quantifies experimentally the effect of pendant droplets condensed on the back of semi-transparent glass panes on their normal-hemispherical...

The increasing energy consumption and detrimental CO₂ emissions contributing to global warming underscore the urgent necessity for energy conservation, ...

Many of the Guardian glass solutions designed for high light transmission incorporate double- or triple-silver



55 light-transmitting double-glass components

low-E glass coatings, providing an optimal LSG ratio to help keep interior spaces ...

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