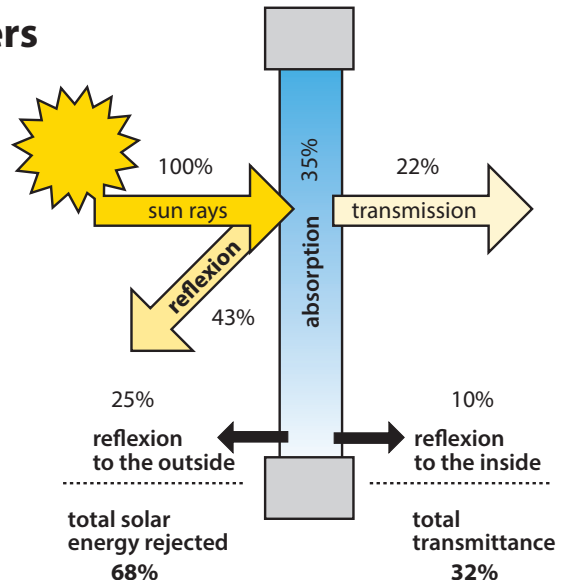


Solar Energy Technical Definitions

The Interaction of Solar Optical Parameters

Technical Specifications (example)

| | |
|---|-------|
| Solar Transmittance | 36 % |
| Solar Absorptance | 22 % |
| Solar Reflectance | 42 % |
| Emissivity | 0,77 |
| UV-Transmittance (measured at 300 - 380 nm) | < 1 % |
| Shading Coefficient | 0,51 |
| Visible Light Transmittance | 72 % |
| Visible Light Absorptance | 19 % |
| Visible Light Reflectance | 9 % |
| Total Solar Energy Rejected | 55 % |
| IR-Reduction | 95 % |
| Thickness | 75 µ |



The factors glazing construction and inside or outside film installation can influence the values.

Solar Transmittance

The percent of incident solar radiation that is transmitted through the window film/glass system. The lower the number, the less solar radiation transmitted.

Solar Absorptance

The percent of incident solar radiation that is absorbed by the window film/glass system. The lower the number, the less solar radiation absorbed.

Solar Reflectance

The percent of incident solar radiation that is reflected by the window film/glass system. The lower the number, the less solar radiation reflected.

Emissivity

The measure of a surface's ability to absorb or reflect far-infrared radiation. The lower the emissivity rating, the better the insulating qualities of the window film/glass system.

UV Transmittance (measured at 300 - 380 nm)

The percent of ultraviolet (UV) that is transmitted by the window film/glass system. The lower the number, the less ultraviolet transmitted.

Shading Coefficient

The radiation of solar heat passing through window film to the solar heat gain that occurs under the same conditions if the window were made of clear, unshaded double strength window glass. The lower the number, the better solar shading qualities of the window film/glass system.

Visible Light Transmittance

The percent of total visible light that is transmitted through the window film/glass system. The lower the number, the less visible light transmitted.

Visible Light Absorptance

The percent of visible light (400-850 nm) which is absorbed by a material and transformed directly into heat.

Visible Light Reflectance

The percent of total visible light that is reflected by the window film/glass system. One differentiates between light reflectance measured on the inside or the outside. The lower the number, the less visible light reflected.

Total Solar Energy Rejected

The percent of total solar energy (heat) rejected by the window film/glass system. The higher the number, the more total solar energy (heat) is rejected.

Thickness

The material thickness is measured in „µ“. 100 µ = 0,1 mm

Visible Light

Visible light is the range of wavelength between 380 nm and 780 nm. The spectral colors can be found in this range of the light spectrum. They start at the shortwaved violet (380-424 nm) to the longwaved red (647-780 nm). The infrared radiation (780-2500 nm) slightly begins in the visible red range.

UV Radiation

Shortwaved, energy rich but invisible radiation of the sun. UV-B (280-315 nm) is absorbed in part by the atmosphere (especially by the ozone layer). UV-A (315-380 nm) and also UV-B essentially cause fading of colors and skin damage.