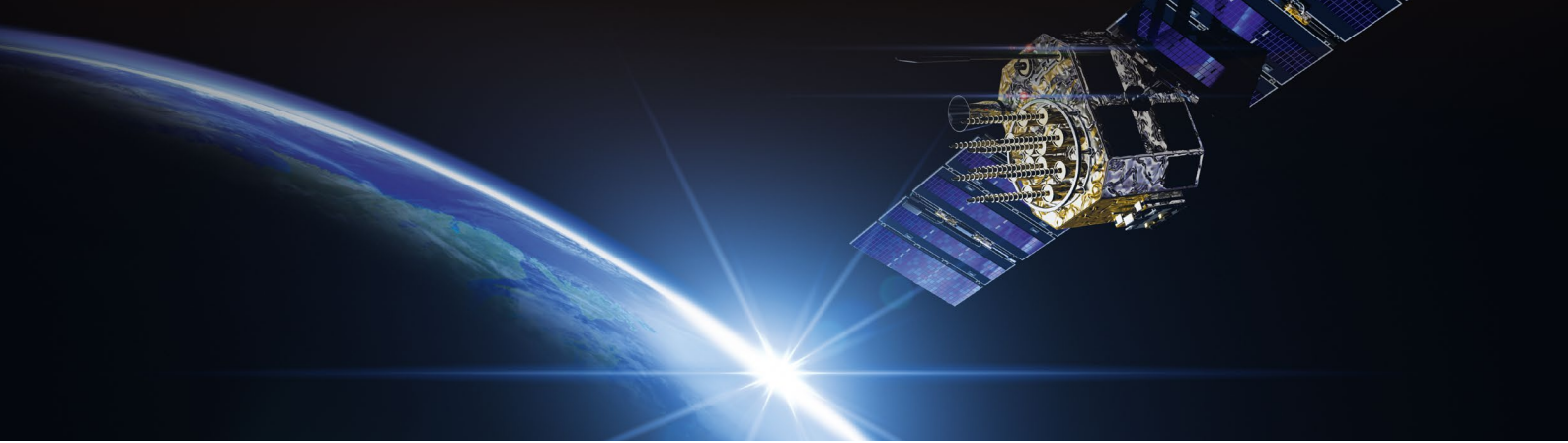




SCHOTT® Solar Glass exos

High-performance cover glass for next-generation solar cells

SCHOTT® has established itself as a trusted partner for high-reliability glass solutions in photovoltaic applications, combining scientific expertise with industrial precision to meet the most demanding requirements. SCHOTT® Solar Glass exos extends this legacy – engineered specifically for advanced solar cell technologies in orbit.

With enhanced resistance to solarization and optimized UV absorption, SCHOTT® Solar Glass exos delivers superior protection on two levels: it safeguards the glass itself against UV-induced transmission loss and shields the adhesive and cell interfaces from harmful ultraviolet exposure. Combined with a coefficient of thermal expansion precisely matched to III–V multijunction cells, it ensures long-term optical and mechanical stability throughout extended mission lifetimes. Qualification according to ECSS standards is underway to verify endurance under simulated orbital conditions.

Application

These properties make SCHOTT® Solar Glass exos an excellent choice wherever power systems must combine durability, efficiency, and reliability in space.

Ideal for use in:

- High-radiation environments requiring stable optical and thermal properties
- High-efficiency III–V multijunction solar arrays
- Next-generation satellite power systems operating in demanding orbital conditions

General properties



Outstanding transmission
UV-A - NIR



High edge strength



High absorption of UV radiation



Fire-polished surface



Made to withstand UV solarization



Ultra-thin thicknesses



Protection against high-energy particle radiation

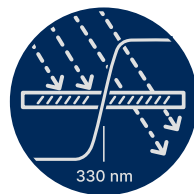


Available in large formats

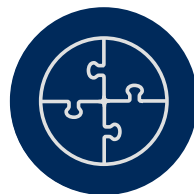
Specific properties



Solarization stable against high-energy particle radiation



UV absorption to protect adhesive



CTE tailored for III-V-multijunction cells

SCHOTT® Solar Glass exos

Geometrical properties

Thickness*	mm	0.150
		0.100
		0.050

* Other thicknesses on request

Optical properties

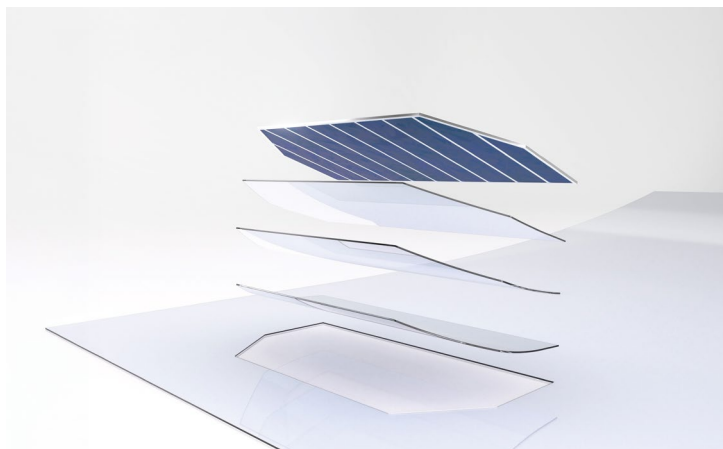
Refractive index n_d		1.5145
Edge wavelength λ_c ($\tau = 46\%$) at $t = 0.100$ mm	nm	344

Mechanical properties

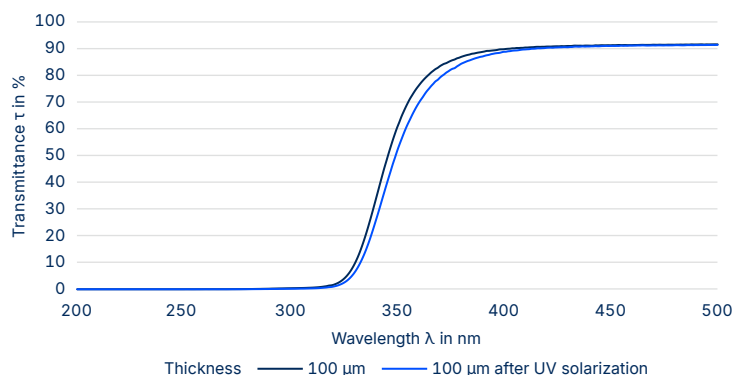
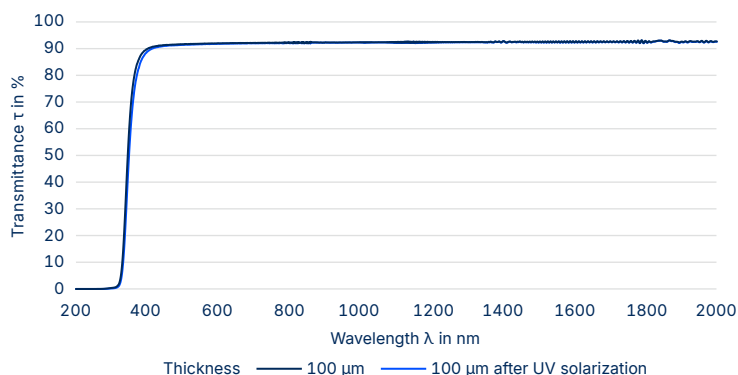
Density ρ	g/cm ³	2.54
Young's modulus E	kN/mm ²	74.5
Poisson's ratio μ		0.218

Thermal properties

Coefficient of thermal expansion – CTE $\alpha_{(20; 300^\circ\text{C})}$	10 ⁻⁶ /K	6.9
Transformation temperature T_g	°C	557



Spectral transmittance of SCHOTT® Solar Glass exos



Transmittance values of SCHOTT® Solar Glass exos at $t = 0.100$ mm

	$\tau(\lambda)$ – individual values in %				τ – in % arithmetic mean for the given λ range				
	τ_{400}	τ_{450}	τ_{500}	τ_{600}	$\tau_{300-315}$	$\tau_{400-450}$	$\tau_{600-800}$	$\tau_{450-1100}$	$\tau_{900-1800}$
Uncoated glass	90.2	91.4	91.7	92.0	0.5	91.0	92.1	92.1	92.3
Coated glass, single side anti-reflex	91.2	93.1	93.8	94.4	0.5	92.5	94.4	94.1	93.4

The stated values represent typical production data and are provided without tolerances.



[schott.com](https://www.schott.com)

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