

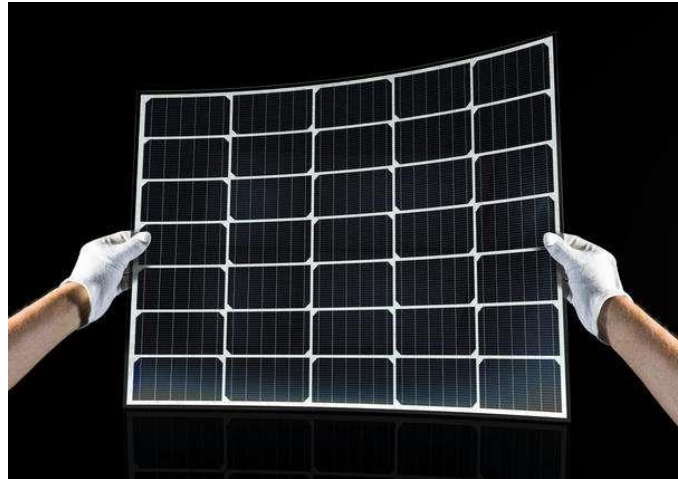
**Category:** Materials, Coatings & Processes

**Reference:** TD-DE-1074

### Solar Cell Cover Glasses

The main goal of our Solar Cell Cover Glasses is to offer effective protection for space and terrestrial photovoltaics. As the world increases its reliance on solar power to generate electricity, the use of photovoltaics is becoming more widespread – not only on Earth but in space.

Whether on Earth or in space, photovoltaics require technical solar glass for protection from harsh environments, as well as to sustain high transmittance in the visible spectrum of light up to near-infrared that increases the efficiency of the cell while shielding against harmful radiation.



Decades of experience and expertise in glass manufacturing allows Solar Cell Cover Glass to be produced in different thicknesses directly drawn from the melting tank. This includes ultra-thin and flexible glass available down to UTG thicknesses below 70  $\mu\text{m}$  as cut-to-size substrates. Design opportunities are further enhanced by the availability of different coatings.

The Solar Cell Cover Glasses offer a range of technical advantages when used for space or terrestrial applications such as photovoltaic systems and optical solar reflectors. Transmittance across the spectrum from UV-A to near-infrared is excellent, while low-wavelength UV radiation is effectively blocked. Low solarization also ensures reliable performance during the lifetime of a mission, while a fire-polished surface and outstanding geometrical homogeneity add to its effectiveness.

### Innovative Aspects:

- **Protection against radiation**  
To ensure a photovoltaic cell system functions well throughout its lifetime, its technology and hardware need to be effectively protected against several types of harmful radiation. The Solar Cell Cover Glasses absorb that harmful radiation and minimize the damage it causes.
- **High light transmission**  
Across the radiation spectrum, from UV-A to NIR, our Solar Cell Cover Glasses achieve an outstanding level of transmission. This provides high performance and efficiency for photovoltaic systems, which devices depend upon to function at their optimum level.
- **Solarization stability**  
The harmful radiation in space means that degradation is always a threat. The special material composition of our Solar Cell Cover Glasses is designed to prevent solarization and discoloration of the glass, providing stable optical performance for the lifetime of the mission.

- **High surface quality**

The stable and reliable performance of a glass depends on its geometrical properties, and the technology owner has the expertise to deliver top quality. All thicknesses and shapes are drawn with a fire-polished surface and homogenous geometry, which produces consistently great results.

### Application Areas:

- **Terrestrial photovoltaics**

Phasing out fossil fuels creates opportunities for new solar cell applications. For example, the transition of vehicle power from internal combustion engines to electric powertrains creates a demand for photovoltaic cells able to produce electricity right where it's required. When attached to the surface of a vehicle, these cells require a lightweight cover that is strong, flexible, and highly transparent over the lifetime of the vehicle.

