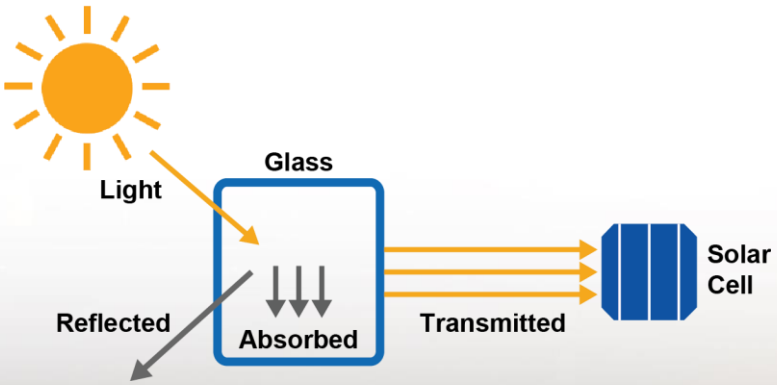
ANTIREFLECTIVE GLASS

SunEdison Silvantis® photovoltaic modules are engineered to deliver maximum energy from high-efficiency monocrystalline silicon solar cells. In order to capture the greatest possible amount of sunlight, SunEdison has used glass that is treated with an antireflective coating (ARC) since 2012. When light reaches a material it is either transmitted, absorbed or reflected. SunEdison modules use a textured, high-transmission tempered glass that reflects and absorbs very little light and transmits as much as 94% of sunlight in the wavelengths useful to producing electricity with silicon cells. By adding an antireflective coating to the glass, light that would otherwise be reflected off the front surface of the glass is captured by the module.



CAPTURE MORE ENERGY WITH ARC GLASS:

- 94% light transmission
- Up to 4% higher energy yield
- Up to 2.4% increased efficiency

BEHAVIOR OF LIGHT

When reflected, light produces specular reflection from any smooth surface where the index of refraction is different from that of air. The intensity of the reflection is dependent on the angle between the sun and the glass and the index of refraction of the glass. ARC glass has a refractive index closer to that of air than uncoated glass and has a reflectivity similar to that of water. At normal incidence, ARC glass reflects approximately 4% of incoming light while glass used in other applications typically reflects 8%. This increases the amount of light that reaches the cell; compared to modules made without ARC glass, SunEdison modules produce about 2% more module power under STC* conditions. Over the course of the day, as the angle of incidence of sunlight onto the glass changes, the ARC reduces reflection at all angles, thereby increasing energy harvest by as much as 4% compared to modules that do not use ARC.

ARC glass reduces glint and glare by reducing reflection and allowing more sunlight to transmit through the glass and into the cell. Using ARC glass is particularly important in applications where glint from a solar installation might be considered objectionable. Installation plans for solar modules near airports may need to be approved by authorities who assess the impact of glint and glare that might be produced to insure that pilot and flight tower operations are not affected. Many solar installations using ARC glass have been built at or near airports and air force bases without any disruption to aviation.

WHAT IS GLINT AND GLARE?

Glint: Also known as specular reflection, the direct reflection of the sun on the surface of the solar module can produce glint. This is the primary source of concern regarding visual distraction, and SunEdison modules with ARC glass are no more reflective than water and half as reflective as car windshields.

Glare: A continuous source of brightness, relative to diffused lighting. This is not a direct reflection of the sun, but rather a reflection of the bright sky around the sun. Glare is significantly less intense than glint.

*STC (Standard Test Conditions): 1000 W/m^2, AM 1.5, 25 C cell temperature

SunEdison
600 Clipper Drive, Belmont, CA 94002
Phone: 866-786-3347 or 650-453-5600
Email: modules.info@sunedison.com
Website: www.sunedison.com

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