

ARGICOAT ANTIREFLECTIVE COATING

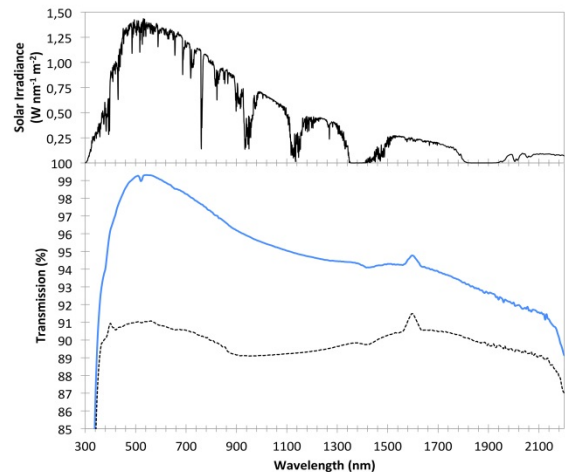
ARGICOAT is a nano-system based on graded refractive index multilayer stack that provides antireflective properties onto glass substrates.

ARGICOAT has been developed for improvement of glass transmission over a broadband within the solar spectrum.

The technology used for the synthesis permits to implement further properties such as hydrophobicity, easy-to-clean, anti-soiling while maintaining optical performance.

EXCELENT BROADBAND TRANSMITTANCE

Compared to standard extraclear float glass, ARGICOAT coated glass has visible light transmittance up to 8,5% higher and solar light transmittance up 7,5% higher



SOUND DURABILITY

ARGICOAT has shown outstanding performance after testing under accelerated aging according to internationally recognized photovoltaics technology standards IEC 61215 (for components of silicon photovoltaic modules) and IEC 62108 (for components of concentrator photovoltaic modules).

COMPATIBILITY WITH GLASS TEMPERING PROCESS

The glass tempering cycle does not affect the level of optical performance of ARGICOAT. Furthermore, the glass thermal treatment can be substitutive of standard thermal sintering of the coating, which provides a great opportunity for a cost-effective industrial implementation.

HIGH MECHANICAL AND ABRASION RESISTANCE PROPERTIES

ARGICOAT's performance in terms of mechanical properties is high, as measured by nano-indentation and nano-scratch tests. Abrasion resistance has been demonstrated by simulation of cleaning process through a reciprocating test (25.000 abrasion cycles with Scotch-brite® under 1kg load) with no deterioration of ARGICOAT optical properties.



HIDROPHILICITY/HIDROPHOBICITY TUNABILITY

It is possible to functionalize ARGICOAT in order to implement further properties that might be required, such as easy-to-clean, anti-soiling, anti-abrasion, anti-fogging or property maintenance in several environments.

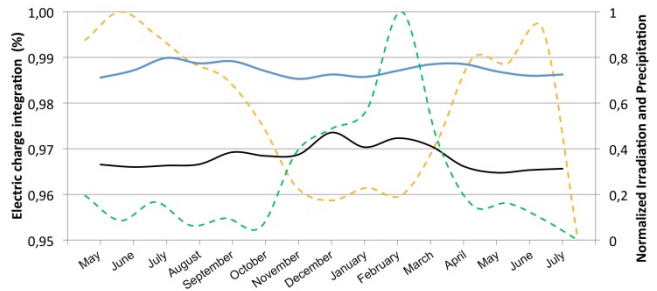
ARGICOAT is under European patent application EP17382016



TESTED IN PV AND CPV PROTOTYPE ASSEMBLIES

Gain of transmissión over standard glass results in a considerable improvement in PV electricity generation (crystalline-silicon solar cell, multijunction solar cell)

ARGICOAT has proven its worth in PV-prototype modules exposed outdoors to different types of climates



ARGICOAT on silicon solar cell prototype exposed for energy monitorization



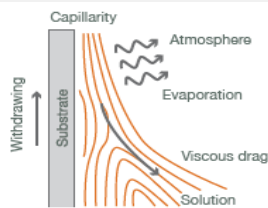
ARGICOAT on multi-junction cell CPV-prototype

MANUFACTURING PROCESS



Chemical synthesis

based on the sol-gel technology. A stable and homogeneous sol by the admixing, stirring and heating of liquid precursors is formed



Coating deposition

onto the substrate can be performed by several applying methods as dip coating, spray coating, roll coating, flow coating.



Standard sintering

forms final material. Glass tempering process is also useful to sintering the material

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