PRESS RELEASE

Kuraray and solar glass manufacturer ‘f | solar GmbH’ present an innovative High power double glass PV panel with TROSIFOL SOLAR UV+

Excellent module efficiency through combination of high-duty components - Glass-Glass-PV-Module with PVB encapsulation film meets the highest safety requirements with regard to glazing in the building envelope

At the special show “glass technology live” during the worldwide leading fair of the glass industry “glasstec” in Dusseldorf TROSIFOL will present an innovative Glass-Glass-PV-Module and will demonstrate how embedding losses may be reduced by more than 5 percent through expedient combination of high-duty components. The high-efficiency module has been manufactured by ‘f | solar GmbH’ in cooperation with the companies Kuraray Europe GmbH / Division TROSIFOL, Schlenk Metallfolien GmbH & Co. KG and Scheuten Optisol®.

The Glass-Glass-PV-Module is equipped with new components:
The front glass is a specific low-iron solar float glass with a thickness of only 2.0 mm. Being equipped with a robust Mono-Broadband-Antireflex Coating the f | solarfloat HT offers energy transmission (TePV) of about 94 percent and it optimally suited for use in silicon solar cells with selective emitter technology.
The PVB encapsulation film TROSIFOL SOLAR UV+ with unique UV transmittance shows high and permanent stability and exceptional resistance to heat, UV radiation and moisture. A second highly reflective PVB encapsulation film SOLAR R40 ULTRA WHITE reflects the sunlight over a wide wavelength range so that it essentially contributes to higher module efficiency.
In addition to that, performance is increased by up to 3 percent through use of a Light Harvesting String (LHS) of the type LHS SELECT supplied by Schlenk. The precisely structured surface of the silver-clad ribbon directs the sunlight to the air/glass boundary

layer at an exactly defined angle, resulting in "total internal reflection" (TIR).
The smooth and non-dispersive surface of float glass works most efficiently in this case. Sunlight deflected in such manner can be almost completely retrieved on the active surface of the cell.

A typical standard PV module consists of a 3.2 mm low-iron front glass, a transparent encapsulating film in front of and behind the solar cell and a back side cover glass or polymer back sheet layer. A string with 60 cells yields approx. 250 W power in a module.

The power output of such a module can be increased by 5% or more by changing to

- a low-iron 2 mm tempered and AR coated front glass
- a thin UV transmissive PVB encapsulant before and
- a white high reflective PVB layer behind the solar cell in combination with
- a high power (Selective Emitter) cell connected by specially designed cell connectors (LHS)

Double glass PV panels score in the matter of power output, long-term durability and stability compared to standard PV modules. Additionally such a solar panel is classified as laminated safety glass and can be used in BIPV applications e.g. as thin glass element for double or triple insulating glass.

We look forward to seeing you at the glasstec 2012 in Dusseldorf: Hall 10, Stand 10F38

Please also pay a visit to TROSIFOL in the "glass technology live" show in Hall 11, Stand C28.

23rd October 2012

Background *f | solar*
The company f | solar concentrates its efforts on industrial manufacture and marketing of specifically low-iron and highly transmissive solar glass with efficient, extremely robust and long-life AR coating.
f | solar is a joint venture formed by Dutch Scheuten Group and Interpane Glas Industrie AG, two multinational undertakings backed by more than 100 years of

experience in the field of high-duty glass production.
Industrial and consistent high-quality solar glass manufacture from one source!
About 270 experts working in one of the most modern and fully integrated solar glass factories in the center of Germany's Solar Valley produce up to 700 tons per day of extremely low-iron solar float glass.
Of course the highest standards of environmental protection are observed.
Green products – Green factory.
Further information may be found under
http://www.fsolar.de/

Background TROSIFOL
TROSIFOL is one of the leading manufacturers of PVB film for laminated safety glass worldwide. TROSIFOL products are mainly used in applications for automotive and architectural glazing, special TROSIFOL films are used to encapsulate solar cells with long term durability in the photovoltaic industry. PVB is the background material for all TROSIFOL films used as an interlayer in laminated safety glass since the middle of the thirties of the 20. century. The experience gained from the processing of this material since 1953, thanks to ongoing research and development, is one of the main reasons for technical leadership and worldwide success of TROSIFOL. TROSIFOL is a Division of Japan based chemical group Kuraray Co. Ltd (Tokio) which is the world's leading producer of polyvinyl alcohols (PVA), one of the initial products for TROSIFOL PVB films.
Kuraray Europe GmbH has installed an integrated externally monitored management system that satisfies the requirements of a quality management system conforming to DIN EN ISO 9001:2000 with the supplementary demands of the automotive industry ISO/TS 16949, an environmental management system conforming to DIN EN ISO 14001:2005 and an occupational safety and health management system conforming to BS OHSAS 18001:2007.
http://www.trosifol.com

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