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"Allgäu-based Pioneers at the Intersolar 2009"

AZUR 2P by AZUR Solar: A highly innovative coating avoids wear and soiling - only 2% performance loss over 20 years - opens up new opportunities for desert deployment of photovoltaic systems.

High Performance Module AZUR 2F: Lightweight Power Coating

AZUR Solar GmbH, a leading German provider and global supplier for all photovoltaic requirements, began its success story in Wangen, located in the picturesque Allgäu region of southern Germany, where it is still headquartered today. These idyllic surroundings would not usually be the first place one would expect to find scientific pioneers, but with the development of AZUR 2P, which the company is set to present at the Intersolar 2009 in Munich, AZUR Solar GmbH may completely revolutionise photovoltaics. "Particularly at international trade fairs, the term 'worldwide innovation' is something we hear quite frequently - but AZUR 2P really lives up to this title", says Bernd Sauter, CEO of AZUR Solar, as he elaborates on the future of photovoltaics:

**AZUR P2 photovoltaic modules still offer 98% of their original capacity after 20 years**

"AZUR 2P, a completely new type of coating for photovoltaic modules, is the result of continued research and development. The coating process protects solar cells from extreme external factors - for example sand storms in the desert - and the surface coating is water-repellent and possesses both self-cleaning and self-repairing properties. In case of any damage to the surface, the coating flows to the relevant area and seals it. The area will then harden to a smooth finish within just a few hours. In other words: AZUR 2P provides reliable protection against abrasion caused by sand, dirt etc., and also keeps moisture, acids and alkalis at bay, providing effective protection against material aging. Traditionally, aging and capacity loss for solar modules had to be calculated at about 1% per year, e.g. approx. 10% in ten years. AZUR P2 effectively protects against radiance and hazing, thus reducing the degradation process tenfold. That means that after 20 years of use, efficiency will no longer be reduced to 80%, but instead will remain at a sensational 98%, revolutionising not only life expectancy, but also ROI. The UV resistant coating will be made available in a wide variety of RAL colours. Depending on individual requirements, the module can be offset in contrasting colours in accordance with building specifications, or can be made virtually invisible - for example in projects related to cultural heritage. This point in particular can make the difference in terms of authorisation procedures."

**The desert lives!**

Bend Sauter believes that photovoltaics will give new meaning to the old phrase 'the desert lives'. Regions like the Sahara will become available for utilisation as a highly efficient global energy resource, and at the same time provide much needed funding for economically underdeveloped regions in Africa, explains Sauter. As a result, the aspirations advocated by both Sauter and his colleagues, to bring together economy and ecology through efficient photovoltaics, are brought to fruition.

## **The power coating AZUR 2F opens up new photovoltaic application areas on rooftops and building surfaces**

With AZUR 2F, the coating with only 1 mm minimum thickness, AZUR Solar presents a highly efficient solar cell module at the Intersolar 2009, which can be installed on just about any roof with minimum effort, providing a capacity of 92 Wp. Due to its particularly low weight of 1 kg/m<sup>2</sup>, AZUR 2P is ideally suited for large roof areas or lightweight constructions, and makes available new application areas. AZUR Solar's CEO explains: "amorphous silicon solar cells are laminated onto a flexible, unbreakable plastic foil. The cells are then encapsulated and bonded permanently. The particularly high yield of 92Wp can also be reached in solutions, where two solar cells are mounted on top of each other for different spectral ranges". 'Installation' is easily carried out by means of any double-sided adhesive tape commonly used by certified roofers. The flexible coating can be moulded to any roof or area, and provides an additional protective layer when used over the entire surface. No points of entry remain for wind or storm, while simultaneously providing high clouding tolerances.

## **Pioneering in more than one area**

Matthias Klopstein, executive manager and CTO concludes: "We think that by presenting AZUR 2P at this leading global fair for solar technology, we can initiate a threefold peaceful revolution in terms of technology, economy and ecology that will have far reaching, if not global impact. In particular, areas which were only partially usable for energy production from sun light, e.g. the Sahara Desert, can now be made widely accessible. And our power coating AZUR 2F also revolutionises the area of photovoltaics for roof areas that were previously inaccessible".

## **Company Background**

AZUR Solar GmbH, headquartered in Wangen, in the Allgäu region of southern Germany, is a reliable supplier for all photovoltaic requirements with a strong potential for international growth. Our offering comprises wholesale products for trade, construction and specialist retail - as well as individualised planning, consulting and custom solution services for constructors and investors. Our partnerships with leading players in the solar energy industry and other innovative enterprises benefit our clients through the provision of expertise and excellent supply conditions. We provide all system components for highly profitable photovoltaic installations from a single source - at a guaranteed high quality, e.g. the TÜV (German Technical Inspection Authority) certified PV modules with warranties for 10 years (90% capacity) or 25 years (80% capacity). DC current generated via PV modules must be transformed into AC current before line entry into the main power grid. To this end, AZUR Solar supplies the PLATINUM inverter, produced by AKO Diehl in Wangen. The solar cables provided for weather, ozone and UV resistance provide close to zero performance loss between module and inverter. In conjunction with their innovative substructures, AZUR Solar provides appropriate mounting for solar modules in in any area of application: private residences, commercial buildings, or factory buildings alike. AZUR Solar's leading position in the area of solar power and renewable energy is based on their comprehensive offering of all components required for energy production from sun light combined with extensive consultancy services.

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