Surface treatment of photovoltaic coating substrate

The atmospheric plasma treatment process modifies material surfaces similarly to vacuum plasma treatment processes - the surface energy of treated materials increases substantially, to ...

CVD-based surface treatment is suitable for preparing photovoltaic self-cleaning surfaces. These methods prepare self-cleaning surfaces by reacting gaseous substances with hot surfaces ...

It is mainly applied to the surface of photovoltaic devices, which can alleviate the dust accumulation problem of photovoltaic panels in arid, high-temperature, and dusty areas and reduce ...

Recent technological breakthroughs have focused on nano-structured coatings that mimic natural anti-reflective surfaces such as moth eyes, as well as photocatalytic coatings that ...

The system comprises a substrate with a self-cleaning surface treatment that prevents dust accumulation while maintaining photovoltaic efficiency. The treatment is integrated into the ...

In this study, a superhydrophobic self-cleaning coating with an anti-reflective (AR) effect on the glass surface was developed by the sol-gel method.

In this research, the efficiency of photovoltaic (PV) panel surfaces due to environmental pollution (dust, dirt and carbon dioxide etc.) results in the loss of output power.

In this work, we propose a simple and inexpensive sparking process to produce an AR film. This method uses simple equipment that can be operated in ambient conditions without a high ...

Therefore, there has been a recent surge in the development of multi-functional surface coatings for solar panels, aiming to impart properties like self-cleaning, anti-reflection, anti-fogging, anti-icing, self ...

Surface engineering focuses on the range of methods to optimize the chemical and physical properties of substrate"s thin top surface layers where the surface phase of the solid is ...

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