

The Importance Of Solar Backsheets In Solar PV Panel

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In brief

The solar backsheet is a part of the solar PV panel. It is the last layer in the panel and is found at the bottom of the panel.

The solar backsheet is a part of the solar PV panel. It is the last layer in the panel and is found at the bottom of the panel. It is typically made of polymer or combinations of various polymers.

The backsheet plays a major role in the PV panel. It is known to prevent the panel from requiring unwanted maintenance that would cost more. Quality solar backsheets protect the panel from UV radiation which can harm the polymer materials. It also prevents penetration due to humidity and vapour. It protects the panel from dryness, dust, wind, and other chemicals. It is also considered to scratch resistant which helps as during installation or maintenance there is a high chance of leaving scratches behind. It also helps maintain stable temperature which is the range between -40 degrees to +85 degrees.

The bifacial solar PV panels which are designed in a way to allow the sunlight to enter from both sides need to have backsheet which are transparent. The solar backsheet testing has shown that it can last longer and the electrical components are well preserved in it.

Solar Backsheets are known to allow the modules to function safely. The photovoltaic modules operate at a temperature above 90 degrees. The backsheet helps insulate the electrical components to ensure that they can produce electricity safely. The backsheet safety levels can be checked by two tests which are breakdown voltage test and wet leakage test. During a breakdown voltage test, if the voltage level causes the permanent failure of the backsheet or loss of electrical safety, the backsheet is not safe enough as it can lead to shocks and fire hazards. During wet leakage test, if the panel is able to keep the electricity isolated within the components of the panel, it is good.

The backsheets are also known to help produce power more efficiently. The PV modules are made so that they be a reliable source of power for 25 years or more. It requires all the components to work well in order for the panel to perform at an optimum level for long. Backsheets insulate the electrical components of the module and protect them.

The performance of backsheet can be analyzed a poor quality backsheet would degrade due to UV light effect. A good quality backsheet would not degrade to UV light and if it is not of good quality it would turn yellowish and indicate its vulnerability.

There are various kinds of solar backsheets being manufactured in India with different specifications. There different solar backsheet are PET, PVDF, PVF, ADHESIVE. All of them have different specifications and choose the right one depends on the requirement. The PVDF is available in two variants which are double-sided and single sided. PET is the most commonly used backsheet which have been in the market for a long time compared to PVDF. PVDF is not yet that old to give a long term review of the product. It depends on the overall decision to choose the right backsheet according to the specifications required. Choosing the wrong backsheet can result in a major problem as it won't be able to last long and result in electrical problems or lead to fire hazards.

Vishakha Renewables is one of the top solar backsheet manufacturers in India and also produces EVA sheets. It has all kinds of solar backsheets available PET, PVF, PVDF, etc. The solar backsheet market in India has been growing immensely and there are various producers of backsheets in the market. It just comes down to choosing the best quality product for long-lasting performance.

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