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Title: Photovoltaic panel composite material frame mold

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The mold tolerance is controlled within  $\pm 0.1\text{mm}$  to ensure that the frame can be perfectly matched with the photovoltaic module glass, backsheet and installation system.

The invention relates to the technical field of solar photovoltaic module production, in particular to a composite material solar photovoltaic module frame.

The polyurethane (PU) composite solar panel frame, jointly developed by Covestro and its partners, provides a new solution for the selection of frame materials for photovoltaic (PV) modules.

The manufacturing process combines six components to create a functioning solar panel. These parts include silicon solar cells, a metal frame, a glass sheet, standard 12V wire, and bus wire.

As the global leader in advanced composite framing solutions, we connect PV module manufacturers with technology that cuts costs while minimising the carbon footprint.

Composite materials, such as fiber-reinforced polymers (FRP) or carbon-fiber composites, reduce frame weight by 30-40% compared to aluminum, enabling lower transportation costs and simplified installation.

Produced in a state-of-the-art production facility, the solar frames we supply are molded and assembled using high-precision tools ( $\pm 0.02\text{mm}$  variance) to ensure reliable performance and a lengthy product lifespan.

The frames are formed by surface spraying and combining after a 45-degree angle cut, serving as the framework for rectangular photovoltaic modules. Each set of frames consists of 4 profiles and 4 corner codes, used for ...

In this article, we will explore the intricate details of photovoltaic frame pultrusion molds, how they are used in solar panel production, and the benefits they bring to the renewable energy sector.

According to the national standard "Photovoltaic building integrated system lightning protection technical specification", photovoltaic frame is an insulation component, does not need to be grounded, saving ...

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