

# **High-Temperature Resistant Moroni Photovoltaic Container for Field Research**





## Overview

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Colorless polyimide (CPI) is one of the most heat-resistant polymers. It has been widely used in many fields such as microelectronics and photoelectric fabrications, because it integrates the advantage.

Why should we study photovoltaic materials?

**Contribution to Scientific Knowledge: Innovative Synthesis and Analysis of Photovoltaic Materials:** This research provides a comprehensive and novel perspective on the most commonly used materials in photovoltaic systems, emphasizing their impact on efficiency, durability, and long-term performance.

How does temperature affect photovoltaic module efficiency?

Module efficiency can decrease by 0.4–0.5% per degree Celsius temperature increase. Consequently, maintaining an optimal operating temperature is crucial for sustained performance. Phase Change Materials (PCM) are specialized coatings applied to photovoltaic modules to regulate temperature through their physicochemical properties.

Can PCM reduce the temperature of photovoltaic modules?

PCM materials, properties, and applications. Various materials have been evaluated to reduce the temperature of photovoltaic modules. The main objective is to demonstrate the viability of PCM as a sustainable solution to mitigate efficiency losses caused by temperature increases.

Can thermal interface material reduce thermal resistance of PV system?

The research results showed that coupling the PV system with a thermoelectric generator (TEG) can effectively reduce the temperature rise of the SC and enable waste heat to generate electricity. And coating the thermal interface material can reduce the contact thermal resistance and enhance the heat transfer.



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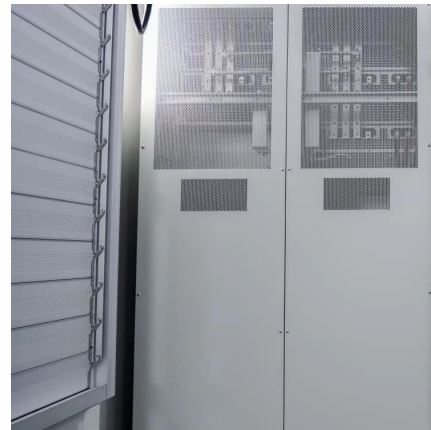


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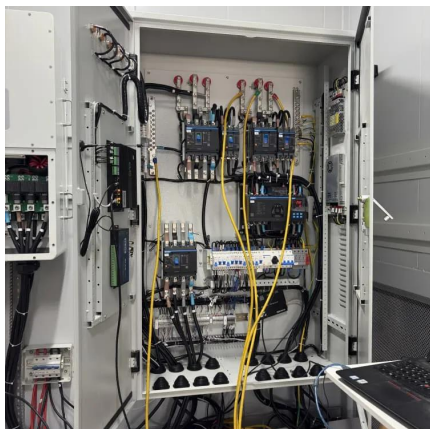






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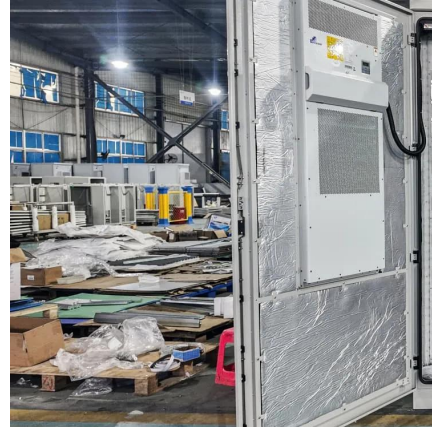
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