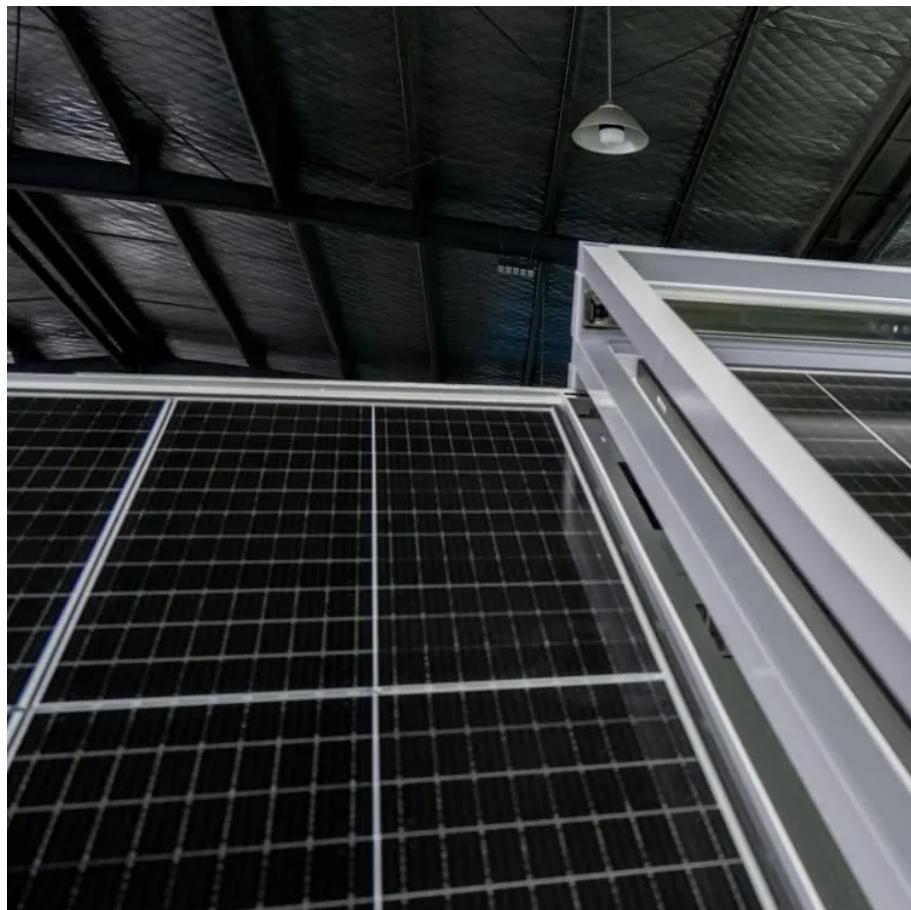




WALMER ENERGY

Silicon sulfide and solar glass





Overview

Glass provides mechanical, chemical, and UV protection to solar panels, enabling these devices to withstand weathering for decades. The increasing demand for solar electricity and the need to redu.

Are glass-ceramic sulfides ionic?

Glass-ceramic SEs offer several advantages but typically exhibit low ionic conductivities. Given the recent developments of sulfide- and halide-based glass-ceramic materials, the overall objective of designing superionic (inorganic) SEs, entailing polymer- or clay-like softness, seems feasible.

Why do solar panels need glass?

Glass provides mechanical, chemical, and UV protection to solar panels, enabling these devices to withstand weathering for decades. The increasing demand for solar electricity and the need to reduce anthropogenic carbon emissions demands new materials and processes to make solar even more sustainable.

What is the role of cover glass in solar PV?

This contribution summarizes the role of the cover glass in PVs, highlighting some of the most recent and exciting research results of glassy materials for solar silicon photovoltaic applications. The glass community has plenty of opportunities to develop new materials and processes that may reduce our carbon emissions and environmental footprint.

Are superionic sulfide-based glass-ceramic materials possible?

Given the recent developments of sulfide- and halide-based glass-ceramic materials, the overall objective of designing superionic (inorganic) SEs, entailing polymer- or clay-like softness, seems feasible. These SEs benefit from lower processing temperatures and versatile chemistries that allow for further enhancements.



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