

Solar glass and phosphorus





Overview

Where is phosphosilicate glass used?

Present address: Global Photovoltaic Simulation Group, Case Postale 1056, 1211 Geneva 1, Switzerland. The phosphosilicate glass (PSG), fabricated by tube furnace diffusion using a POCl_3 source, is widely used as a dopant source in the manufacturing of crystalline silicon solar cells.

Can phosphosilicate glass be used as a dopant source?

Please refer to the publisher's site for terms of use. The phosphosilicate glass (PSG), fabricated by tube furnace diffusion using a POCl_3 source, is widely used as a dopant source in the manufacturing of crystalline silicon solar cells.

Can phosphorus rich glass be combined with numerical simulations?

VII. CONCLUSIONS With applying numerical simulations, it is possible to combine various experimental findings into a model, such as the composition of the phosphorus rich glass (PSG), inactive phosphorus in Si and its distribution, the gettering ability, and metal contact formation.

How is phosphosilicate glass formed?

A common P diffusion method is to expose Si wafers in a furnace at about 800–900 C to an atmosphere of POCl_3 and O_2 (with N_2 as a carrier gas), forming a phosphosilicate glass (PSG) on the wafer surfaces. This process step is usually called pre-deposition, and the resulting PSG provides a source of P dopants that diffuse into the Si wafer.



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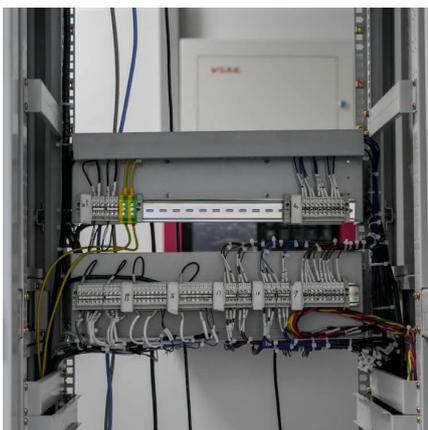


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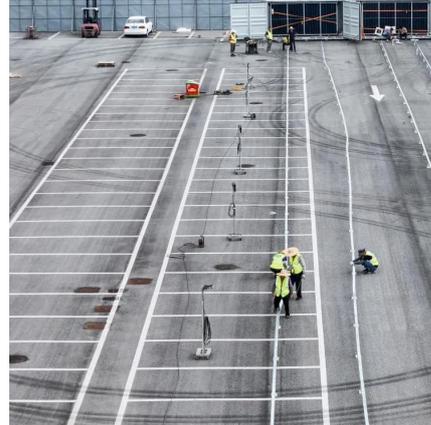
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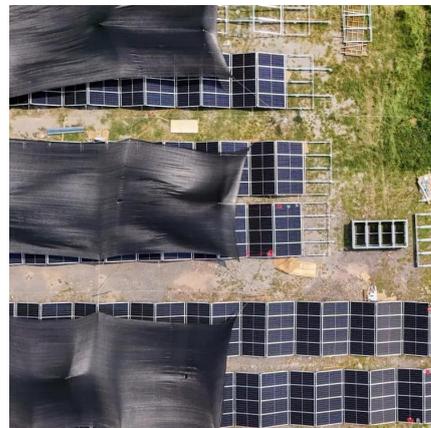


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