



Solar ion implanted glass





Overview

Solar cells manufactured using ion implant are usually higher in efficiency by 0.1% to 0.3%. Process flow is simplified due to single-sided doping and elimination of the acid glass etch. Implant provides PID resistant cells (in modules) without additional costs.

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AGC Plasma Technology Solutions has pioneered large-scale ion implantation for soda-lime and alumina silicate glass, enabling improvements in scratch resistance and anti-reflective properties. This article explores the key principles of ion implantation, its effects on material properties, and its.

The present study examined the effect of nitrogen ion implantation on the physical and optical properties of prepared glasses. Implantation of N⁺ ions was performed at concentrations of 5×10^{16} and 5×10^{17} ions/cm² and energy of 150 keV. The morphological investigation was conducted using SEM.

The invention concerns a process for increasing the scratch resistance of a glass substrate by implantation of simple charge and multicharge ions, comprising maintaining the temperature of the area of the glass substrate being treated at a temperature that is less than or equal to the glass.

Ti and N were implanted into soda lime glass to doses up to 4.53×10^{17} cm⁻² to reduce solar load and infrared transmission. Analysis of the Ti1N implant distributions by Rutherford backscattering spectrometry and x-ray photoelectron spectroscopy~XPS! revealed profiles which closely followed each other.

emarkable solar control performance. Combined with traditional clear glass in a conventional one-inch insulating glass unit, Solarban® 70 glass blocks up to 73 percent of the sun's solar energy, while transmitting more than 63 percent of its visible light. The result is an unprecedented Light to.

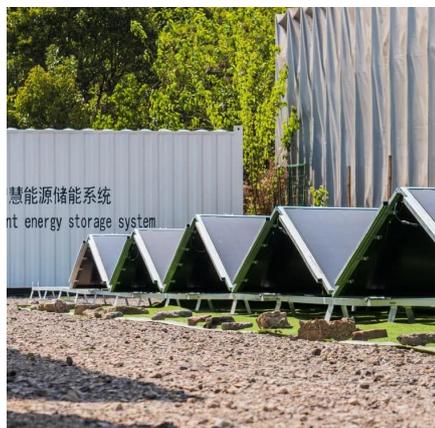
sign and process results of a linearly scalable ribbon ion beam for modifying glass



surfaces by an ion implantation technique. Our source technology enables beam currents up to 30 mA/cm² and ion implant energies up to 60keV enabling economically viable large format and high throughput processing.



Solar ion implanted glass



[Ion implantation process and ion implanted glass substrates](#)

The present invention is related to glass substrates and their manufacture, in particular to glass substrates that are exposed to mechanical contact and the treatment by ion implantation

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[Vitro Architectural Glass Case Study](#)

Second is the glass' transparency. Solarban® 70 glass is the only architectural glass in the industry to combine such an exceptional level of solar .

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Re-structuring of glass surface by ion post-embedding for ...

Inspired by ion-exchange technology as a means to chemical strengthening glass, alkali ions (K +) were, herein, superficially embedded into photovoltaic (PV) glass under ...

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[Ion-implantation and photovoltaics efficiency: A review](#)

This featured letter elaborates the ion-implantation technological application to photovoltaics, providing a opportunity to optimize the production of advanced solar cell ...

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[Formation of buried TiN in glass by ion implantation to ...](#)

Samples were made by gluing together two pieces of ion implanted glass and cutting the sandwich into a disk of 1 mm thickness. The disk is then ground down to 100 mm thickness ...

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[Ion Implantation for Enhanced Glass Properties](#)

As industries demand more durable, high-performance glass, ion implantation provides a cost-effective and long-lasting solution for ...

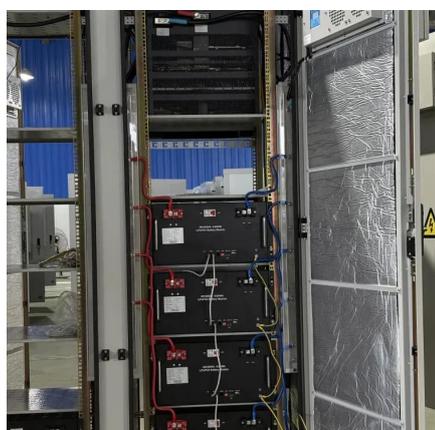
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[Intevac Ion Implant For Solar Cell Manufacturing](#)

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[Manufacturing](#)

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DFT electronic structure investigation of chromium ion-implanted ...

Thin films of CuO were deposited on silicon and glass substrates using reactive magnetron sputtering. Chromium was introduced via ion implantation, and samples were ...

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[Alexander Welsh Large Area Ion Implantation Source for ...](#)

sign and process results of a linearly scalable ribbon ion beam for modifying glass surfaces by an ion implantation technique. Our source technology enables beam currents.

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Effect of ion implantation on physical, optical properties and ...

During ion implantation, the depth of ion penetration into the glass is influenced by several factors, including the parameters of the ions (such as beam energy and mass), as well ...

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[Ion Implantation for Enhanced Glass](#)



Properties

As industries demand more durable, high-performance glass, ion implantation provides a cost-effective and long-lasting solution for automotive displays, solar applications, and optical glass ...

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