SolarInnovate Energy Solutions

What is used to separate photovoltaic glass

Overview

How to separate glass from PV glass?

To effectively separate glass from the PV piece, the penetration of separation reagents into the glass-EVA gap is extremely important. Therefore, the wettability of the medium on glass is an important factor. The PV glass used in this experiment has one side with a rough surface and the other side with a smooth surface.

How to separate a PV module from a solar cell?

The separated PV modules are filtered and sieved to obtain a mixture of glass and backsheet strips as well as a mixture of (solar cell + EVA) and backsheet. The glass and backsheet strips can be separated using hot air. Furthermore, an appropriate density reagent can be used to separate (solar cell + EVA) and backsheet.

Which method is used to separate different layers of glass?

Meanwhile, three methods separating different layers were compared—the use of 1,2-dichlorobenzene, the use of EGDA, and the direct pyrolysis. Moreover, the effects of temperature, ultrasonic field, and solid/liquid ratio on the glass peeling rate were investigated.

Can Egda be used to separate glass-Eva in photovoltaic modules?

Non-toxic reagent EGDA was used to separate the glass-EVA in photovoltaic modules for the first time. The glass in 20 mm × 20 mm photovoltaic pieces can be separated adequately in 3 h. EGDA can be recycled by filtration to be reused. Solar cells can keep their initial size due to the moderate swelling ability of EGDA.

How are solar cells separated?

The glass, backsheet, and solar cells are bonded by EVA film, and the main separation methods include mechanical methods, pyrolysis, and chemical

methods (Dias et al., 2021, Granata et al., 2014, Tammaro et al., 2015). The mechanical method separates waste PV modules through crushing and subsequent sorting (Pagnanelli et al., 2017).

How DMPU is used to separate different layers in photovoltaic modules?

Green reagent DMPU was used to separate different layers in photovoltaic modules for the first time. The glass and backsheet in small pieces cutted from photovoltaic modules can be separated adequately in 1.5 h. Pieces of silicon wafer can keep their initial size due to the low swelling ability of DMPU.

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