

SolarTech Power Solutions

Double glass module transmittance

*Lower cost
larger system*

20Kwh

30Kwh



Verified Supplier



Overview

What is the transmittance of PV glass?

The transmittance of PV glass, which is the ratio of the light transmitted through it to the incident light varies with different PV coverage rates (area proportion of photovoltaic cells) and different materials of PV modules.

How does glass transmittance affect the power generation efficiency?

This will in turn influence the PV module temperature and thus the power generation efficiency. The glass transmittance acts as an important factor affecting both the thermo-optical properties of the STPV unit itself and the overall performance of the combined system (STPV-DSF).

Are bifacial double-glass modules a good choice?

There has been a notable shift from the initial single-facial single-glass modules to bifacial double-glass modules. Double-glass modules, with their performance in the face of salt mist, high temperatures and high humidity, have won the market's favour. However, this trend is not without its risks.

Why is glass transmittance important in STPV-DSF?

The glass transmittance acts as an important factor affecting both the thermo-optical properties of the STPV unit itself and the overall performance of the combined system (STPV-DSF). Chow et al. reported a solar cell transmittance in the range of 45%-55% could achieve the best electricity saving in Hong Kong.

Does glass transmittance affect T_i ?

It can be inferred that less heat was transferred to indoor space as the heat extracted by natural ventilation caused lower T_i . While the decrease of glass transmittance showed limited impact on T_i among the three DSF cells. No significant temperature differences were found during night time affected by glass transmittance variations.

How does glass transmittance affect solar heat gain?

The reduction of glass transmittance would affect the transmitted, absorbed, conducted and re-radiated solar radiation through the DSF structure, while natural ventilation had no effect on the transmitted light. STPV-DSF with the lowest glass transmittance ($\tau = 20\%$ outer skin) and external circulation achieved the lowest solar heat gain in summer.

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