Solar glass heat dissipation method

How to reduce solar heat gain?
In order to reduce the energy consumption due to cooling loads, while maintaining thermal comfort, it is vital to reduce the solar heat gain. The present study focuses on energy saving by comparing the performance of using different types of window glass; namely, single- and double-pane clear and tinted glass.

How does solar irradiation affect thermal loads absorbed by glass?
Thermal loads due to solar radiation absorbed by glass (part of which is conducted to inner space) and transmitted through glass depend on the solar irradiation, type of window glass used, and indoor airflow and temperature distributions.

What are the components of heat gain through glass?
The heat gain components through glass consists of solar radiation and conduction. Solar radiation is considered in two parts - direct and diffuse (or scatter). Diffuse radiation is the solar radiation that is absorbed,stored and scattered in the atmosphere.

Does window glass affect solar heat gain & velocity and temperature distribution?
Conjugate mixed-convection analysis was carried out in order to investigate effects of using different types of window glass on solar heat gain and velocity and temperature distributions inside AC rooms using mixing air-distribution system. ACH was varied in the range 5-20. Single- and double-pane clear and tinted window glass were considered.

This chapter examines the fundamental role of glass materials in photovoltaic (PV) technologies, emphasizing their structural, optical, and spectral conversion properties that ...

Results of model application show that airflow pattern and temperature distribution are sensitive to the solar heat gain and, hence, to the type of glass used. It is found that air ...

Here, we report a thermally stable heat-shielding coated glass for solar glazing in a simple way via direct calcination of Ce and Sb co-doped SnO 2 nanoparticles with ...

An ideal radiative warming window requires higher Tvis and TNIR, coupled with lower ?MIR to enhance solar transmission and suppress heat emission, while commercial low ...

This review paper systematically analyzes design modifications and performance improvements of solar stills with glass cooling taking care of the most important issue of poor ...

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The use of glass in solar energy involves two general types of applications: bulk glass applications, requiring specific optical, thermal and chemical glass properties, such as ...

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