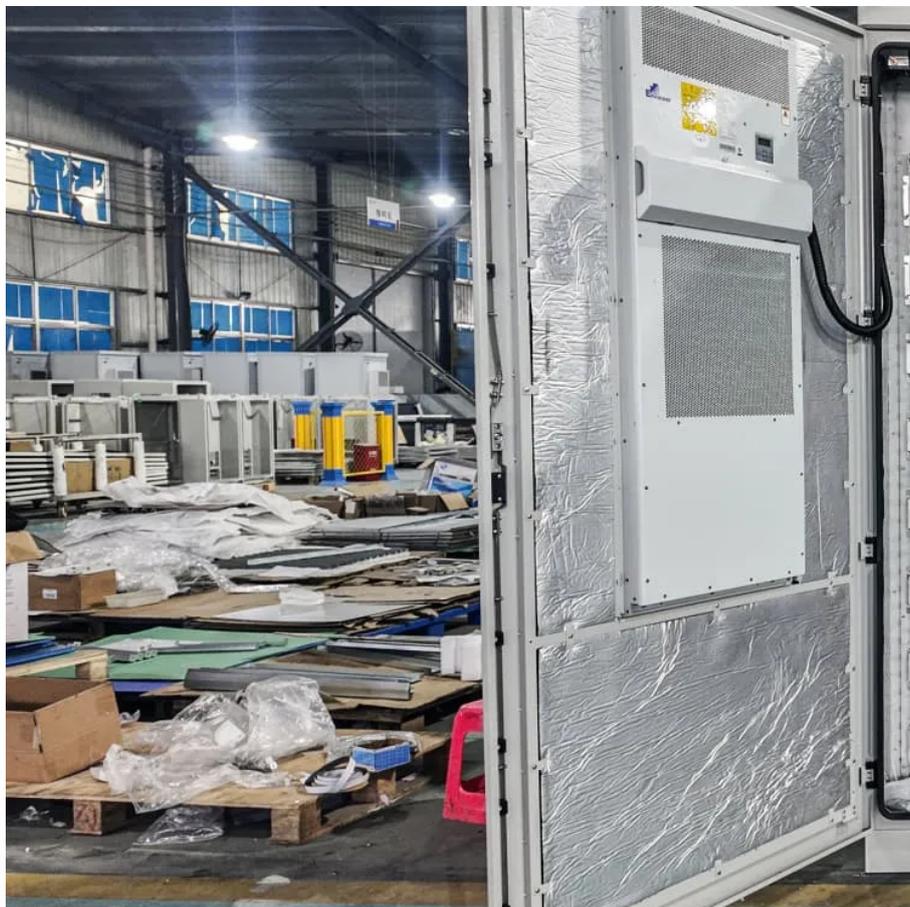


Distribution range of solar glass





Overview

Conjugate mixed-convection numerical analysis is conducted in order to investigate effect of employing different types of window glass on solar heat gain in air-conditioned rooms using mixing air-distribut.

How is absorbed solar radiation distributed in glazing systems?

In the numerical solutions of the distribution of absorbed solar radiation in various glazing systems presented here, each thick element in a glazing layer was divided into a fixed number of 'slices', and the radiation absorbed at coated interfaces was added to the amount of radiation absorbed in the adjacent 'slice'.

Do thick and multilayered glazing systems have a non-uniform distribution of absorbed solar radiation?

Thick and multilayered glazings generally have a nonuniform distribution of absorbed solar radiation which is not taken into account by current methods for calculating the center of glass solar gain and thermal performance of glazing systems.

How can solar energy be used in a glazing system?

The distribution of absorbed solar radiation can be used to generate the resulting steady-state temperature profile inside the glazing and the SHGC of the glazing system, which are used in calculations of window and building energy performance, occupant comfort indicators and glazing thermal stress.

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.



Distribution range of solar glass

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