

## SolarTech Power Solutions

# Advantages of Türkiye s double-glass solar curtain wall



## Overview

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High light transmittance and high power generation efficiency: The glass surface of double-glass components has high light transmittance, which can effectively improve the light absorption rate and power generation efficiency of photovoltaic components. Can a new glass curtain wall replace double glazing?

Usually it is installed on the wall facing the sun in the building, such as the southern wall in the Northern Hemisphere, the new glass curtain wall can replace the existing double glazing when it is used in the actual building. Fig. 1. Working principle of the new glass curtain wall.

Why are glass curtain walls a popular design in modern high-rise buildings?

At the same time, glass curtain walls are a popular design in modern high-rise buildings, because they are not only beautiful but also use natural lighting to reduce lighting energy consumption.

How can a glass curtain wall save energy?

Due to the low ambient temperature in spring and autumn working conditions, ventilation for glass curtain wall can reduce the inside temperature significantly, it can save 179 Wh of electric energy one day. 6. Conclusion.

What are the thermal characteristics of the new glass curtain wall system?

The experimental results of the thermal characteristics of the new glass curtain wall system show that the heat gain of air and water first increases and then decreases, while the maximum value usually appears at noon. Exergy analysis was carried out for the new glass curtain wall testing system.

What is the thermal efficiency of glass curtain walls?

The comparison test was carried out using ordinary double-layer vacuum glass. The results show that the new glass curtain wall system's thermal efficiency is generally the highest at noon, while the maximum heat gain per

unit area of air per day can reach 149 W/m<sup>2</sup> in spring and autumn, 237 W/m<sup>2</sup> in summer, and 52.6 W/m<sup>2</sup> in winter.

Can a double-layer curtain wall improve indoor thermal comfort?

In terms of improving glass structure, Xiangfei Kong et al. adopted a double-layer curtain wall with natural air circulation and louvre system to optimize indoor thermal comfort by changing air circulation and adjusting the shading curtain's angle and installation position, however, this design allows the chamber to overheat in summer.

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