

Window and Door Industry Enters Technological Leap: From the Era of Insulated Glass to Vacuum Glazing

JINAN, SHANDONG, CHINA, June 17, 2026 /EINPresswire.com/ -- The global window and door industry is undergoing a significant technological transformation, shifting from the long-established era of insulated glass units (IGUs) to a new generation of [vacuum glazing](#) technology. Industry experts note that this transition marks a critical milestone in building energy efficiency and high-performance architectural materials.

Industry Upgrade: A Shift from Insulated Glass to Vacuum Technology

For decades, insulated glass units have dominated the window and door market due to their improved thermal performance compared to single glazing. However, with increasingly stringent energy efficiency standards and the global push toward carbon neutrality, traditional solutions are reaching their performance limits.

Vacuum glazing, which eliminates air or gas between glass panes by creating a high vacuum layer, significantly reduces heat transfer through conduction, convection, and radiation. This breakthrough enables a new level of thermal insulation performance that conventional IGUs cannot easily achieve.

Driving Forces Behind the Transformation

The shift toward vacuum glazing is being driven by multiple factors:

- Increasing global demand for low-energy and net-zero buildings
- Rising building energy efficiency standards and regulations



The expansion of passive house and ultra-low-energy construction markets
Growing emphasis on carbon reduction in the construction sector

As a result, vacuum glazing is rapidly emerging as a core material in next-generation window and façade systems.

Performance Advantages of Vacuum Glazing

Compared with traditional insulated glass, vacuum glazing offers several key advantages:

- Ultra-low thermal conductivity for superior insulation
- Significantly thinner structure for lightweight design flexibility
- Enhanced acoustic insulation for noise reduction
- Improved resistance to condensation in extreme climates
- Long-term durability with stable performance over time

These benefits make vacuum glazing particularly suitable for high-end residential buildings, commercial complexes, and energy-efficient renovation [projects](#).

Market Outlook and Industry Impact

Industry analysts believe that vacuum glazing will continue to gain market share as manufacturing technologies mature and production costs decline. The window and door sector is expected to undergo a structural upgrade, with performance-based competition becoming the dominant trend.

The adoption of vacuum glazing is also expected to accelerate in retrofit markets, where improving the energy efficiency of existing buildings is a major global priority.

Industry Perspective

A representative from the advanced building materials sector commented:

“The window and door industry is entering a new phase of innovation. Vacuum glazing is not just an upgrade—it represents a fundamental shift in how we approach energy efficiency in building envelopes.”

Future Outlook



As the industry transitions into a “vacuum era,” vacuum glazing is expected to gradually redefine performance standards for windows and doors. Its adoption will play a key role in supporting global sustainability goals and the development of ultra-low-energy buildings.

About Vacuum Glazing

Vacuum glazing is an advanced energy-efficient glass technology that uses a vacuum layer between two panes of glass to achieve superior thermal and acoustic insulation. It is widely regarded as a next-generation solution for sustainable building design and high-performance architectural systems.

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