

Energy-saving windowpane insulating sheets that save energy throughout the year

Energy-saving windowpane shielding/insulation sheet 'PENJEREX®'

Features

- The film improves air conditioning efficiency during the summer by reducing solar radiation by approximately 40 to 51%.
- The clear energy-saving windowpane insulating sheets feature the highest insulation level in the industry (heat transmission coefficient: 3.6 to 3.8W/m²-K).
- The sheets maintain brightness (Visible-light transmission: 70 to 78%).
- The hard coat is scratch-resistant and highly durable.

Overview

(Technical principles, actions, etc.)

Most typical energy-saving windowpane sheets are mainly designed for adjusting solar radiation and heat insulation, and used for reducing energy and electricity consumption during the summer. On the other hand, due to the recent demand for energy conservation in existing buildings and houses, insulation renovation is prevalent, and energy/electricity conservation, CO₂ reduction and energy-related needs are increasing. With its superior heat shielding and insulating properties, PENJEREX is a window film that offers year-round energy saving effects.

Introductory Track Record

- Office buildings, hospitals, factories, etc.

Summer

PX-7060S (affixed to the inside of the glass) vs. When film is not used (glass only).

Thermal image of the outside window surface (not the inside temperature): The temperature is approximately 8°C cooler. (47°C vs 56°C)

Winter

PX-7060S (affixed to the inside of the glass) vs. When film is not used (glass only).

Thermal image of the outside window surface (not the inside temperature): Prevents heat dissipation through the window. (2°C vs 4°C)

Photographed outside the house.

PX-7060S vs. Typical shielding film

PX-7060S

- Visibility is not impaired.
- Maintains brightness.

Typical shielding film

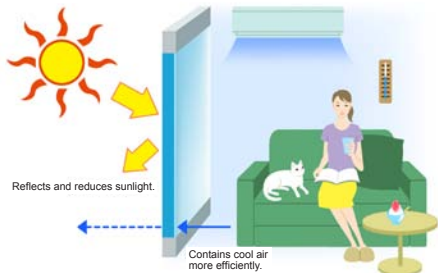
- Visibility is impaired.
- The inside is darker and needs illumination.

Applicable field
 Buildings, house windowpanes, refrigerating showcases, transportation equipment
 Water
 Energy saving/Energy recovery
 Energy storage/Energy creation
 New energy
 Waste disposal/Recycling/Resource saving
 Air
 Soil
 Other

Effects

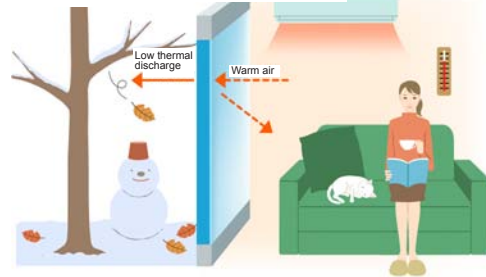
Four features of the (developed) clear shielding/insulation films

(i) Summer (Shielding/insulation properties)



Reduces sunlight by 40%, and blocks heat flux.

(ii) Winter (Insulation property)



Reduces the thermal loss of heating by 35%.

(iii) Transparency



The brightness is hardly affected. (Over 70% visible light transmission)

(iv) Ease of installation/weather resistance



Resistant to scratches from wiping.