

Energy efficient
insulated glass units for
double glazed windows...
creating comfort,
insulation, safety
and lifestyle.

COMMERCIAL
RESIDENTIAL



Chevron Glass
Insulated Glass Units

Advances in glass technology have contributed greatly to energy efficiency as well as comfort levels.

Temperatures vary considerably between day and night, and from season to season.

The greater the temperature difference between inside and outside, the greater the heat flow.

Heat travels relatively easily through ordinary glass. In winter from inside to outside, and in summer from outside towards cooler air inside. This process can be slowed with insulation.

Assembly

Chevron Insulated Glass Units comprise two or more panes of glass bonded to an aluminium spacer bar and separated by a hermetically sealed air or argon filled space.

The units incorporate a primary seal (polyisobutylene – PIB), a secondary seal structural silicone and a spacer bar filled with desiccant (drying agent) to prevent condensation from forming within the air-space after sealing.

Spacer bar widths available: 6, 8, 10, 12, 14, 16, 18, 20 and 26mm.

Maximum unit size: 2800mm x 4600mm.

Minimum unit size: 180mm x 350mm.

Noise Reduction

Properly selected and installed, Chevron Insulated Glass Units can reduce noise by up to 65% compared to ordinary glass.

Chevron Insulated Glass Units can be designed to reduce unwanted noise.

Noise can vary, so the selection of an appropriate Insulated Glass Unit may vary to improve the noise reduction.

Double Glazing

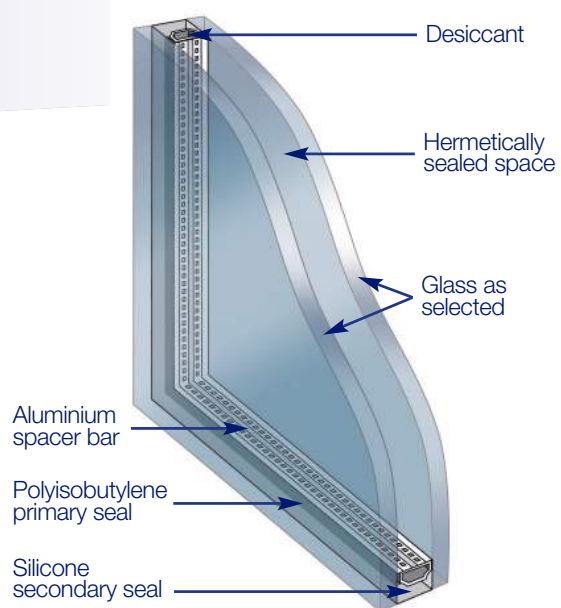
The incorporation of Insulated Glass Units (double glazing) into windows and glazing is an established approach to improving the thermal insulation performance.

Double glazing can be considered for both cooler climates as well as warm environments to provide improved comfort and more efficient use of energy.

Greater Comfort

Chevron Insulated Glass Units provide an opportunity to tailor performance to needs, or to comply with specific project requirements.

Chevron Insulated Glass Units can be manufactured with multiple choice of glass using clear, toned, high performance, laminated or toughened glass and with spacer bars of varying widths.



For example:

- maximizing the width of the air space
- using glass of different thicknesses
- incorporating laminated glass in one or both panes.

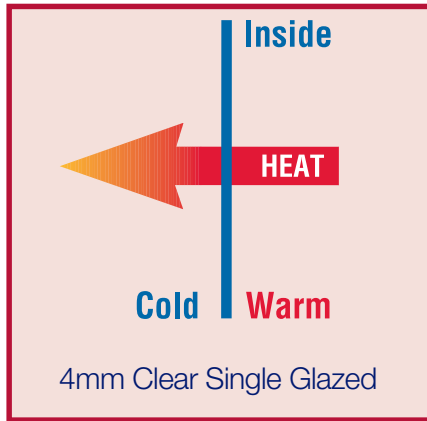
It is important to note that no matter how effective the noise reduction of the Insulated Glass Unit, entry points for noise such as gaps in and around the window frame, walls, ceilings, vents, loose fitting doors and floors also need to be properly sealed.

Warmer In Winter

Energy efficiency is how we describe the energy required for heating and cooling to maintain a comfortable living environment. Windows play a significant role in this. In a typically well insulated building with standard clear single glazing, up to 49% of heat is lost in winter through the windows.

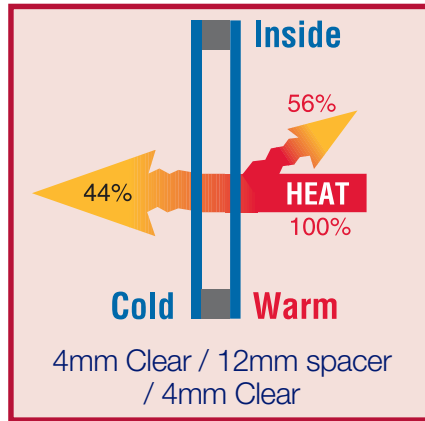
The use of Chevron Insulated Glass Units allows greater control of how much heat escapes through the windows in winter.

By cutting the temperature transfer from warm (inside) to cold (outside), Chevron Insulated Glass Units can significantly reduce the loss of warmth in cold weather.



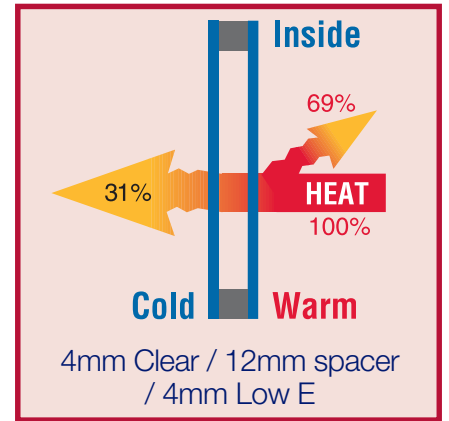
Standard 4mm glass offers little resistance to heat loss.

U-Value 5.9 (Insulation)



Chevron Insulated Glass Unit reduces heat loss by up to 56%

U-Value 2.7 (Insulation)



Chevron Low E Insulated Glass Unit reduces heat loss by up to 69%.

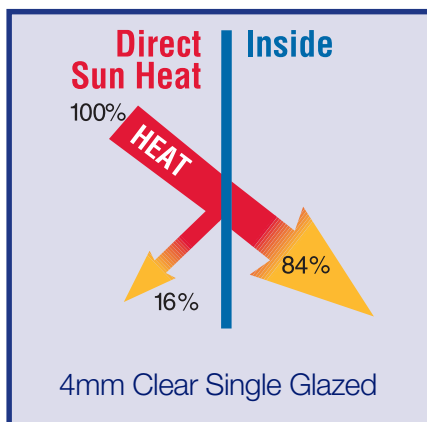
U-Value 1.9 (Insulation)

Cooler In Summer

Heat gain through the glass depends on many factors such as any shading, the elevation, glass type, thickness and temperature.

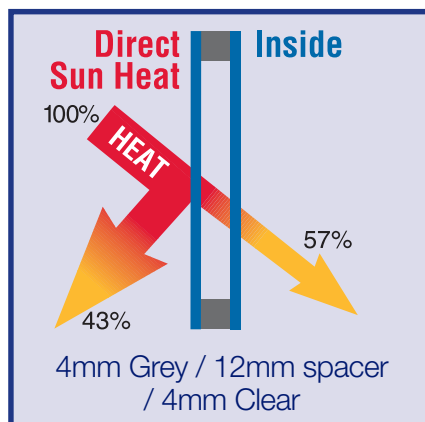
In a typically well insulated building with standard clear single glazing, windows allow the transfer of up to 84% of solar heat gain in summer.

By reducing the temperature transfer from hot air (outside) to cooler air (inside), Chevron Insulated Glass Units can create a noticeably cooler environment in summer.



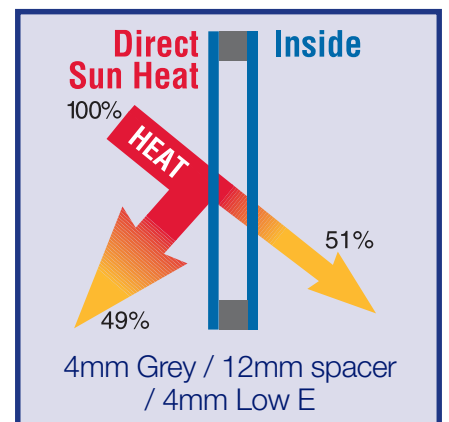
Standard 4mm glass offers little resistance to heat gain.

SHGC 0.84 (solar impact)



Chevron Insulated Glass Unit using toned glass can reduce heat gain by 27%.

SHGC 0.57 (solar impact)



Chevron Low E Insulated Glass Unit using Low E glass on the inside pane can reduce heat gain by 33%.

SHGC 0.51 (solar impact)

Further information

Some Terminology

Understanding terminology relating to thermal transmittance (U-Value) and solar heat gain coefficient (SHGC) are important in selecting glazing that will keep your home or office warm in winter and cool in summer.

U-Value is a measure of the rate of conductive heat transfer or insulation between indoors and outdoors, through the glass as a result of temperature difference inside and outside. The U-Value is dependent on the configuration of the unit, which includes the glass type, thickness and spacer bar width. As the U-Value decreases so does the amount of heat that is transferred through the glass. The lower the U-Value, the better the insulation.

Solar Heat Gain Coefficient (SHGC) is the proportion of directly transmitted and absorbed solar energy that enters the building's interior. It includes direct solar transmittance plus indirect heat gain from re-radiation (conduction) of absorbed heat from the glass. The lower the number, the less the heat gain and better solar control.

Low E Glass

Glass products with a Low E coating are useful for reducing solar heat gain and loss. The Low E coating incorporated into the glass reduces the emissivity (rate of emission of absorbed heat) of the glass surface, thereby providing greater insulation.

Frame Design

Our Insulated Glass Unit Warranty requires that frames are designed in accordance with AS/NZS 4666.

Frames can be timber, aluminium, uPVC, or steel. It is essential to ensure the edges of Insulated Glass Units do not come into contact with or be allowed to remain in contact with water, as this can cause premature seal failure and/or delamination. Chevron Glass requires impervious weather seals and/or an adequate weep or drain system to prevent this from occurring.

Installation

Chevron Insulated Glass Units must be properly installed in accordance with AS/NZS 4666, (see below). It is essential to seek advice from the material suppliers/manufacturers that the type of glazing compound, sealant or gaskets is compatible and suitable for the chosen glazing system. When Chevron Insulated Glass Units are specified for structural glazing (ie. structural silicone as the secondary seal), it is the installer's responsibility to ensure that the glass types and all other components to be used (such as setting blocks, backer rods, structural silicone and glazing compounds) are compatible with the structural silicone used to seal the Insulated Glass Units. It is essential that this is checked with the material suppliers/manufacturers for compatibility and suitability for each project.

Warranty

Chevron Glass provides a limited Warranty which should be read in conjunction with the Chevron Glass Terms and Conditions of Sale currently in force, available on our website.

A copy of the Warranty is also available on request to our office.

AS/NZS 4666 – Insulated Glass Units

This standard sets out the performance requirements and guidelines on the selection and installation of Insulated Glass Units.



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