

## In'flector Radiant Barrier

### See Through Window Insulator.

The In'Flector® insulator is the most effective system available to address the least energy-efficient part of your building: the window. It has been proven that the windows are the weakest link in the insulation value of your property. The reason is glass - losing valuable heat through conduction, convection and drafts.

## Save up to 40% on energy costs.

NASA developed Reflective Foil Radiant Barrier for space travel. Now, there is a new breakthrough in radiant barrier technology: See-through radiant barriers for your windows.

Removable, reversible, In'Flector® see-through radiant heat barrier window insulators address all of the seasonal changes throughout the year, keeping the heat in the building during the winter, while keeping the heat out during the summer.

In'Flector window insulation barriers are:

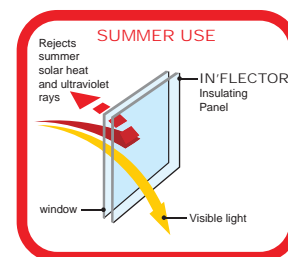
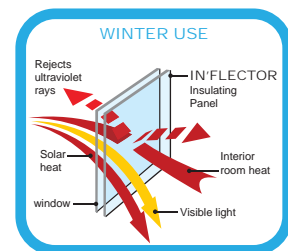
- Easy to fit and remove
- Cost effective
- Good looking
- Durable
- A substantial contribution to reducing carbon emissions
- A permanent Solution for High Energy Bills.

### Winter Benefits

In the winter the In'Flector® window insulators are placed so that the silver side (aluminium) is facing inward, reflecting the thermal heat back into the building

The black side of the In'Flector® faces outward and acts as a **passive solar collector** absorbing the sun's rays and radiating the heat inward.

- Reduces heat loss through windows
- Takes advantage of the sun's natural heating energy - as an example, a 1.2m X 1.2m window in direct sunlight can produce 2096BTU's of heat per hour, which is equivalent to a 600 watt electric heater!
- Damaging UV rays are reflected back outside
- Reduces the load, wear, & maintenance on heating and ventilation units.
- Reduces heating requirements and energy consumption which saves carbon emissions and money .



## Summer Benefits

In the summer the In'Flector® window insulators are turned so that the silver side faces out.

- Reflects radiant heat back out through the window
- Prevents a home or office from heating up like a greenhouse
- Reflects damaging UV rays back out through the windows
- Reduces fading & sun damage
- Controls glare (especially for computers & televisions)
- Provides daytime privacy (one way vision)
- Provides cool day lighting with a view
- Reduces the load, wear, & maintenance on heating and ventilation units.
- Reduces cooling requirements which reduces energy consumption, saving carbon emissions and money.

## The In'Flector Evaluations.

In'Flector® window insulators have been proven to make a significant improvement in the insulation value of your windows. These simple tests show how.



The In'flector gives a reduction of 92°

### The heat bulb test

A 250W heat lamp shines on two thermometers. An In'Flector® panel is placed between them. The thermometer on the bulb side of the screen shows the temperature reaching 183°F, but beyond the In'Flector® the temperature is only 91°F – a reduction of 92°F!

How much heat is reflected by different kinds of windows, and how much difference can the In'Flector® window insulators make? The EDTM glass testing equipment enables us to demonstrate.

In this experiment a bulb shines on a calibrated power meter. Three different types of glass are placed between the bulb and the meter, which shows how much heat passes through the glass.

## Types of glass tested:

Single pane clear

Double pane clear

Double pane low -E



The photographs show how the meters measure the amount of heat passing through the glass.  
Single Pane Clear: 85% of the heat passes through.  
Double Pane Clear: 70% of the heat passes through.  
Double Pane Low-E: 61% of the heat passes through.

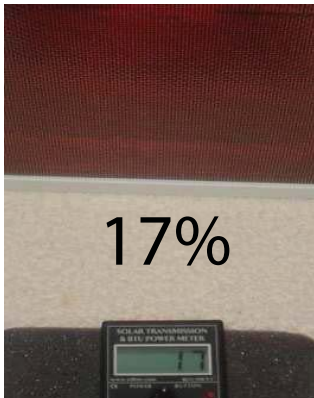


Now, instead of the glass, the In'Flector® screen is placed between the bulb and the sensor. The meter reading shows only 20 % of the heat reaching the meter – **that's three times better than even the best double glazing.**

Laboratory tests report the In'Flector® material reflects 72% of radiant heat, and 65 % of solar heat.

## Test results of the 3 types of glass with In’Flector

Single pane clear



Double pane clear



Double pane Low- E



Now, let’s try the windows again, this time with the In’Flector® insulating screen fitted. The photographs show the reduction in the percentage of heat that passes through each type of glass.

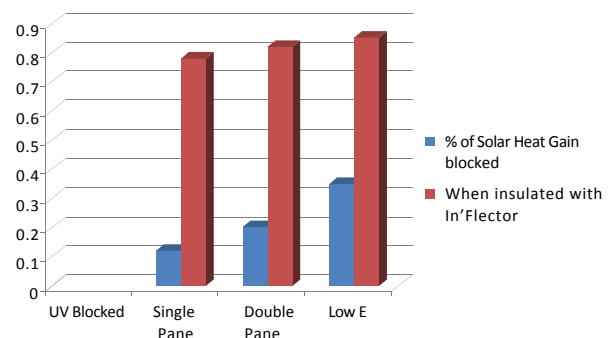
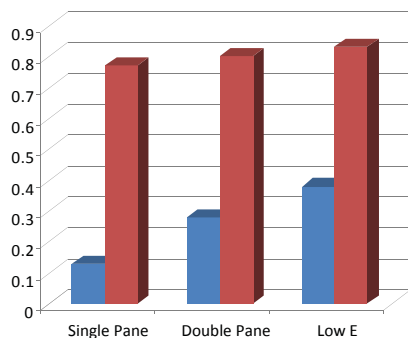
Single pane Clear: only 17% of the heat passes through the glass – down from 85%

Double Pane Clear: only 15% of the heat passes through – down from 70%.

Double Pane low-E: only 13% of the heat passes through – down from 61%

The above tests indicate that when the In’Flector® is added as an interior attachment to windows, the heat that passes through the glass will be substantially reduced. In fact, **a single glass pane window with the In’Flector® is more energy efficient than a double pane low-E window!**

## METERED RESULTS USING EDTM GLASS TESTING EQUIPMENT



**In'Flector® has been independently tested.**

**WHO?** Texas A&M University Department of Construction Science under the guidance of Keith Sylvester, Ph.D,

**WHAT?** From a 2002 report titled "Effects of the In'Flector® Solar Screens on the Thermal Properties of Windows"

**RESULTS:** "the heat gain attributed to the windows of a building using the In'Flector® solar glazing will be significantly reduced..." "Specifically, the U value of the glazing improved by an average of 54% for the winter condition and 50% for the summer condition."

**WHO?** Scanada Consultants Limited

Senior Engineer Aril Parekh

**WHAT?** Air leakage/infiltration

**RESULTS:** In'Flector® Radiant Barrier Window Insulators in a controlled test "substantially reduces the air leakage through the windows by 64.8% to 71%. In'Flector® panels provide a good air-seal."

**WHO?** Scanada Consultants Limited

**WHAT?** Windows at the National Defense Medical Center tested before and after fitting In'Flector® Window Insulators.

**RESULTS:** In'Flector® Window Insulators "address a major concern of good enveloping-infiltration and air leakage".

**WHO?** Yellot Solar Laboratories

**WHAT?** In'Flector® was tested using ASHRAE Standard Number 74-73 at the Yellot Solar Energy Laboratory.

**RESULTS:** "A four foot square window (with In'Flector Insulators in the winter configuration) would have a heat gain of 2096Btu/hr, which is equivalent to a 600 watt electric heater."

**WHO?** Ortech Laboratories

**WHAT?** Ortech Laboratories did an extensive test using accepted and proved methodologies

**RESULTS:** "Under daytime summer solar gain conditions the In'Flector® panel had the effect of reducing the solar heat gain coefficient (SHGC) of the window by 49%. Under night time winter thermal conditions the In'Flector® insulator panels had the effect of reducing the thermal transmittance coefficient of the window by 37%"



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