



NFLECTOR

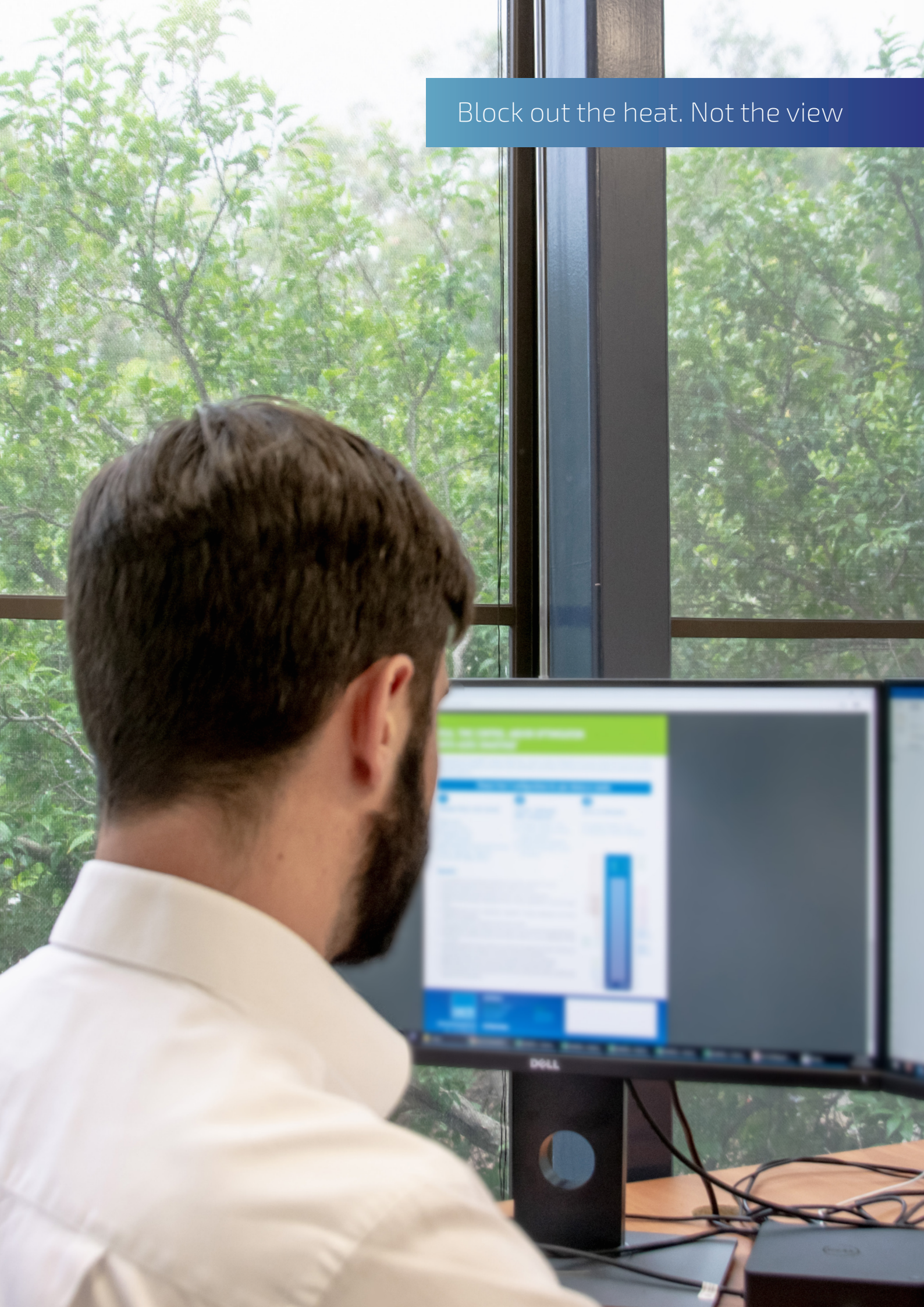
REFLECTION • ABSORPTION • INSULATION

FOR WINDOWS



www.inflectoraustralia.com.au

Block out the heat. Not the view



>NFLECTOR

REFLECTION • ABSORPTION • INSULATION

Inflector is a **cost effective, energy efficient and non-disruptive solution** to window replacement.

Inflector **reduces thermal discomfort** while **minimising energy costs** within the building or home.

Compatible with all types of windows, Inflector will dramatically improve the thermal performance and thermal comfort of your building.

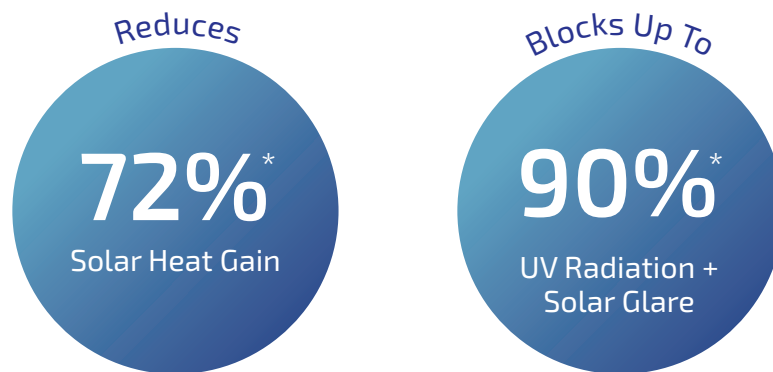
REDUCE THERMAL DISCOMFORT

Australia has one of the driest and hottest environments on earth. **Inflector performs better than double glazing** at protecting homes or buildings from external heat. In many buildings, space heating and cooling accounts for **60-80% of energy costs**. Without the right protection most of that energy is **lost straight out the window**.

Windows allow outside visibility and provide natural day light for our homes and buildings. However, windows are the thermal holes of a building and can be a major source of unwanted heat gain in summer and significant heat loss in winter.

Through **reflection, absorption, and insulation**, Inflector addresses each thermal performance issue created by windows while **maintaining visibility and light entry**.

Inflector technology is a single application solution that combats all methods of heat transfer and energy loss through glass, with minimal obstruction of natural light or views to the outside.

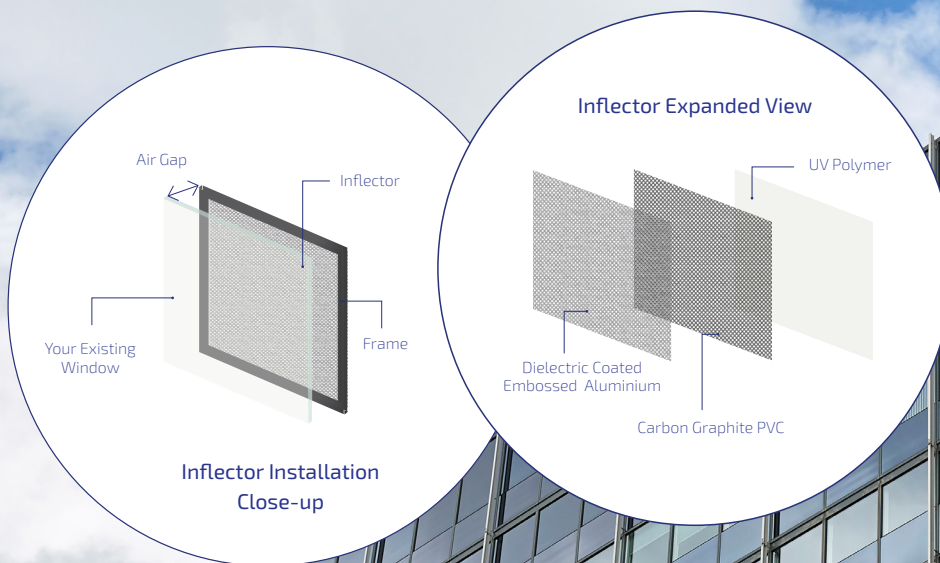


When professionally installed, Inflector is a uniquely engineered solution to thermal transfer issues with windows. Inflector **works effectively in both summer and winter** to thermally balance the rooms within your home or building.

* EEDR Energy Efficient Done Right (Manufacturer) USA

UNDERSTANDING INFLECTOR

REFLECTION • ABSORPTION • INSULATION



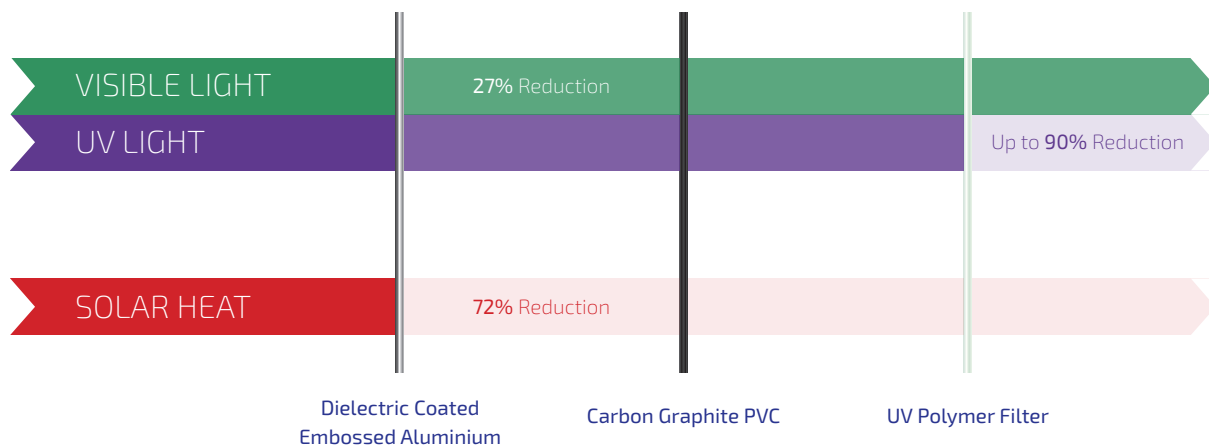
Inflector is a uniquely engineered solution that provides solar filtering and can be applied in a range of installation options to suit each individual home or building's interior design. Inflector **works all year** by helping strengthen the deficiencies of the weakest thermal element in any home or building, glass, and aids in stabilising indoor temperatures by a process of **reflection, absorption, and insulation**.

Inflector allows natural light in, while **reflecting out solar heat** and absorbing damaging ultraviolet light to **create a safer, more comfortable environment** along with **lower energy bills**.

LAYER INTENSITY BREAKDOWN

The Inflector technology was initially developed by NASA in the 1960s, for the space suits worn by astronauts. It was the **only material capable of combating the extremes of heat and cold in space.**

The Inflector material consists of micro-thin layers of dielectric coatings with high and low refractive indexes combined with micro-thin layers of highly reflective aluminium. The metal is coated to a polyethylene sheet, laminated to a sheet of carbon graphite PVC which is then perforated, embossed, and laminated to a sheet of clear UV filtering polyester.



Aluminium was chosen to address reflectivity and emissivity, put simply this layer protects against both heat produced directly by sunlight and radiant heat from outside objects. Aluminium has a low emissivity of between 0.03 and 0.05, this means that only 3% to 5% of radiant heat can pass through the aluminium.

Carbon Graphite PVC is an extremely strong and light carbon-fiber-reinforced plastic capable of handling the driest and hottest environments on earth.

UV Filtering Polymer, combined with the other layers of Inflector, absorbs and blocks harmful ultraviolet light.

PRINCIPLES OF INFLECTOR

REFLECTION

Inflector reflects heat due to the innovative dielectric coatings of aluminium with high and low refractive indexes applied to one side of the product. Heat rejection by this aluminium layer, means the rejected heat does not have to be removed by the buildings HVAC system. This results in a **reduction of electricity consumption**, and may **prolong the productive life of HVAC units**.

ABSORPTION

Inflector includes a sheet of UV filtering polymer, this polymer **absorbs and blocks out up to 90% of harmful ultraviolet light** protecting occupants, carpets, furniture and pictures from the damaging effects of ultraviolet light.

INSULATION

Inflector is installed as a sealed panel, inserted to the inside of the glass window, successfully insulating the room, increasing the thermal protection and insulation value of the building.

Through **reflection, absorption, and insulation**, Inflector will help reduce heat gain during the summer and heat loss during winter.

SPECIFICATIONS

Inflexor is the result of many years of research and development, refined into the product we offer you today. Compliant with AS1530.3, Inflexor installed as a fixed frame, is deemed to satisfy under BCA Section J requirements as a double-glazing alternative to achieve a minimum 6 Star Rating.

SOLAR ENERGY

Transmittance	17%
Reflectance	44%
Absorbance	39%

KEY PERFORMANCE INDICATORS

UV Light/Rays Blocked	92%
Infrared Light/Rays Blocked	84%
Emissivity	0.9%
Total Solar Energy Rejected	82%

RETROFIT ARRANGEMENT (DGU)

Shading	
Coefficient	0.2
Solar Heat Gain	0.25
U Value - W/m ² K	1.48

LIFESPAN/COMPLIANCE

Degradation at 25 years	none
Manufacturer Warranty	7 Years
Compliant with AS1530.3	

SOLAR HEAT GAIN BLOCKED

Glass Type	Unprotected	With Inflexor
Single Pane	13%	77%
Double Pane	28%	80%
Low E	38%	83%
Inflexor Only	73%	

VISIBLE LIGHT TRANSMISSION

Daylight Illumination	> 4850 lux
Transmittance	27%
Reflectance Out	49%
Reflectance In	6%

TECHNICAL DATA

Weight (g/m ²)	284.6
Width (mm)	1346
Thickness (mm)	0.43
Flame Spread Index	0
Smoke Development Index	105
Tensile Strength MD (daN/mm ²)	2.44
Elongation at Maximum Load MD	62.69%



Improves your NABERS Rating

AS1530.3

Complies to Australian Standard AS1530.3



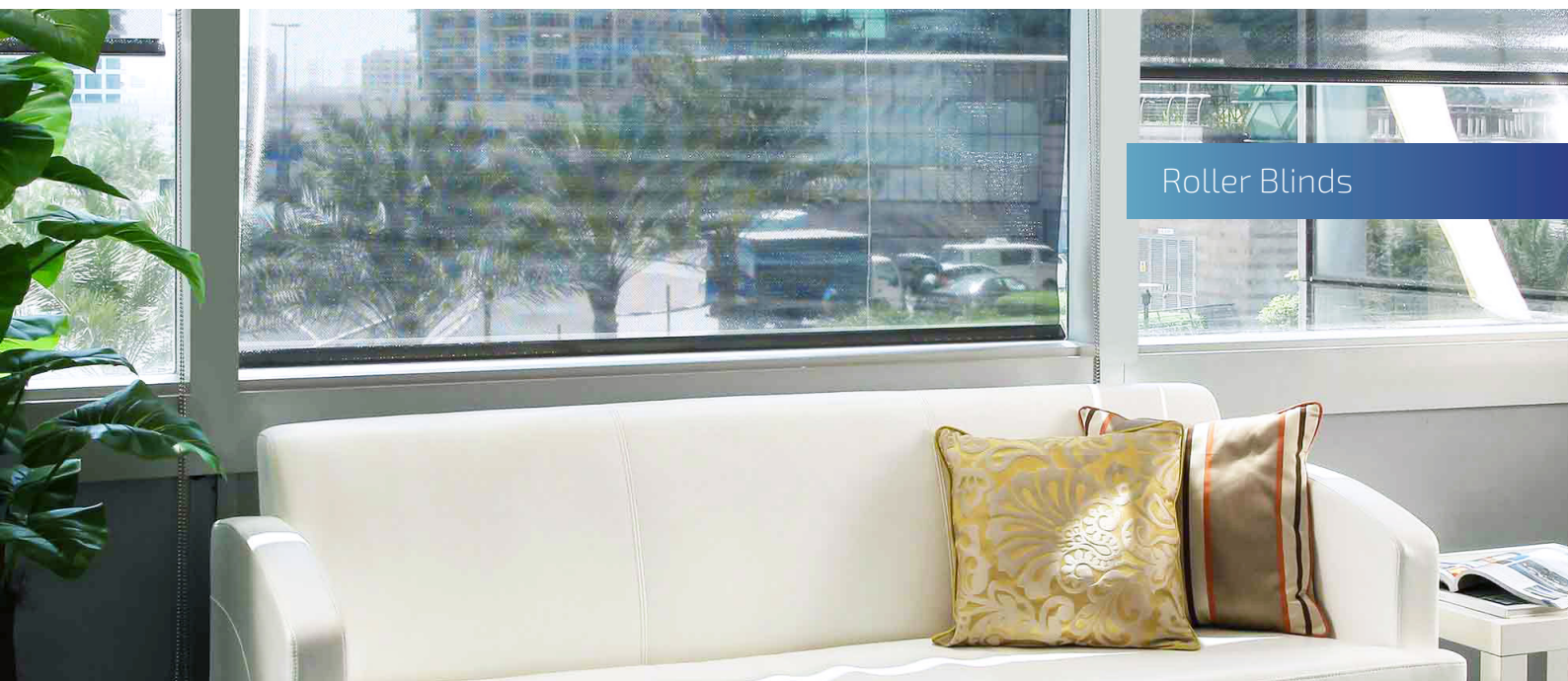
NATA Certified by Lawrence Burkley USA

ACCREDITED FOR
**TECHNICAL
COMPETENCE**

All above data is supplied by EEDR Energy Efficiency Done Right (Manufacturer) USA.



Fixed Frame



Roller Blinds



Vertical Blinds

PERFORMANCE RESULTS

During 2018, a nationally recognised Australian ecologically sustainable design (ESD) company completed their independent analysis of 'the potential of Inflector to reduce cooling demand in buildings across Australia'. Their analysis found that Inflector produced a higher proportional reduction in cooling requirements in locations further from the equator, which have a lower sun angle as represented below.

ANNUAL REDUCTIONS IN THERMAL COOLING DEMAND IN LOCATIONS STUDIED

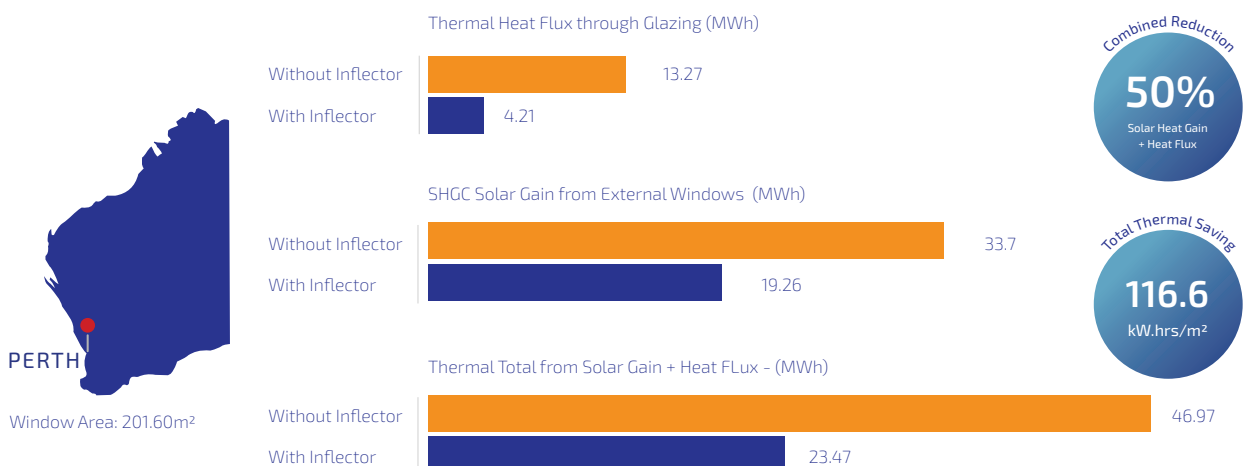
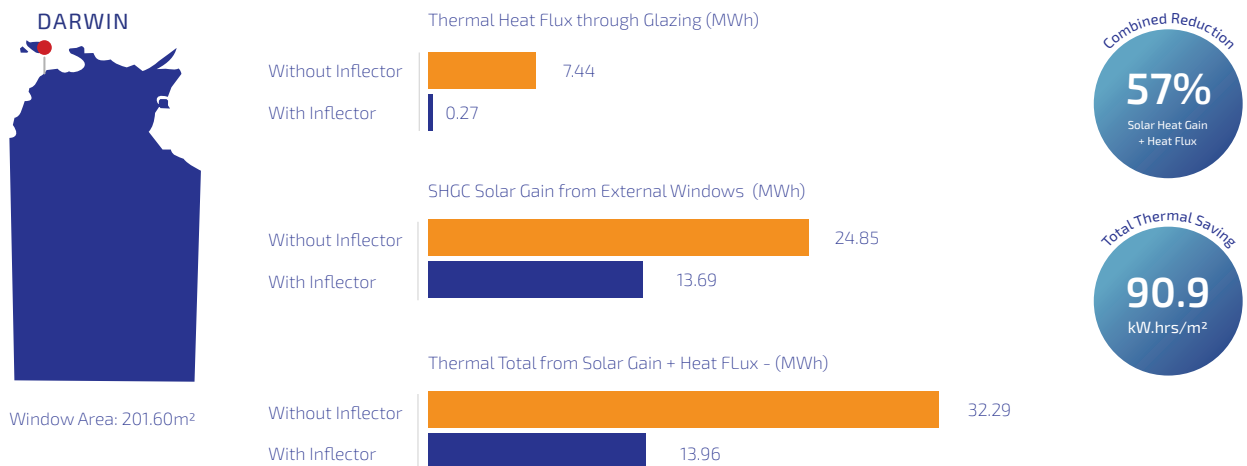


Portion of Building	Hobart	Melbourne	Canberra	Adelaide	Sydney	Perth	Brisbane	Darwin
Whole Building	27.2%	22.9%	22.5%	21.8%	17.7%	20.8%	14.5%	8.2%
East Zones	28.8%	25.1%	23.5%	23.8%	19.3%	19.4%	15.5%	9.6%
North Zones	31.5%	26.1%	26.6%	25.2%	20.8%	20.4%	16.9%	9.0%
West Zones	26.7%	22.8%	22.4%	21.7%	20.8%	18.2%	15.7%	9.1%

PERFORMANCE RESULTS

REGIONAL BREAKDOWN

The following diagrams represent the breakdown of results for the cities studied. The results were achieved through building thermal simulations throughout the summer months, adhering to BCA code (2017).





ADELAIDE

Window Area: 201.60m²

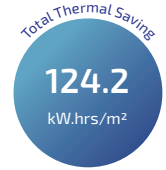
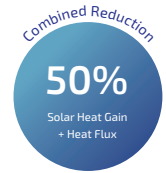
Thermal Heat Flux through Glazing (MWh)



SHGC Solar Gain from External Windows (MWh)



Thermal Total from Solar Gain + Heat FLux - (MWh)



BRISBANE

Window Area: 201.60m²

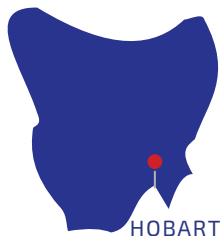
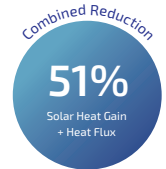
Thermal Heat Flux through Glazing (MWh)



SHGC Solar Gain from External Windows (MWh)



Thermal Total from Solar Gain + Heat FLux - (MWh)



HOBART

Window Area: 201.60m²

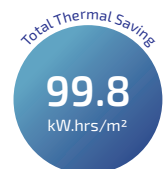
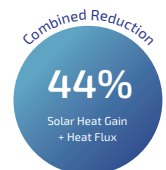
Thermal Heat Flux through Glazing (MWh)



SHGC Solar Gain from External Windows (MWh)

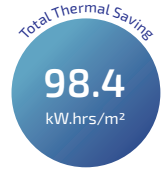
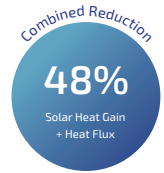
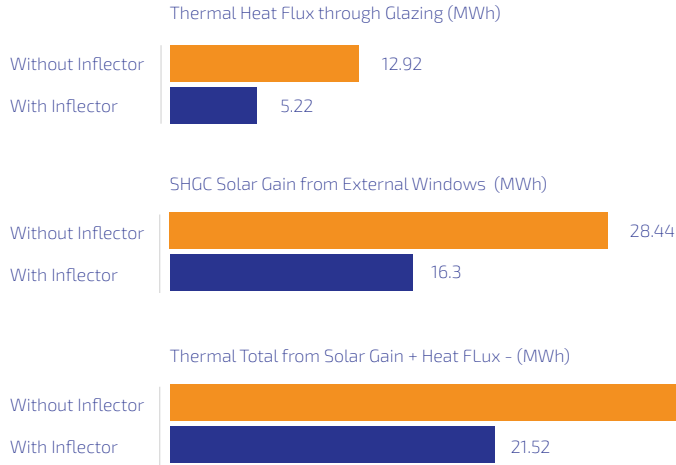


Thermal Total from Solar Gain + Heat FLux - (MWh)

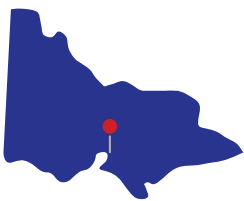
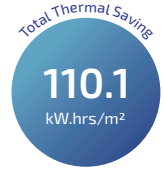
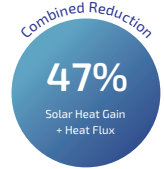
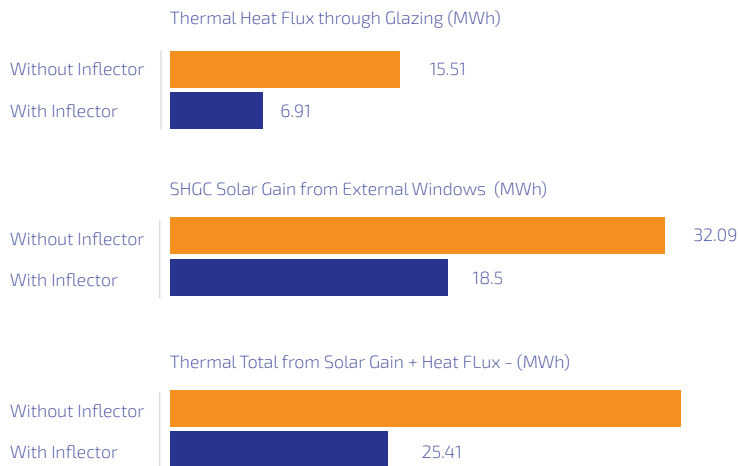




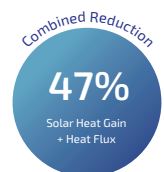
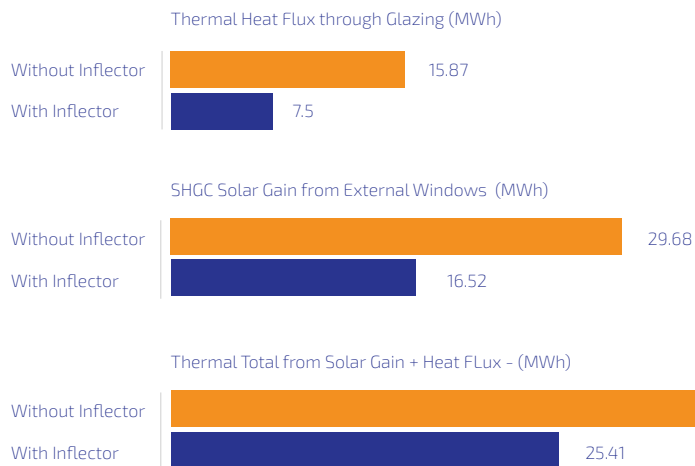
Window Area: 201.60m²



Window Area: 201.60m²



Window Area: 201.60m²



TESTIMONIALS

Regional Health Care

"For years we had relied on the air conditioning system to manage our temperature problems. We found the air conditioning system was unable to maintain the same temperature throughout the office due to the large window expanse along two sides of our offices.

By installing Inflector - a cheaper choice than double glazing - we substantially improved the temperature level of our entire office and found that we had a reduction in our the electricity bill as the air conditioning system was working more efficiently."

Linda Walters

Property Manager

Lismore Workers Club

"Since the Inflector window insulation project has been completed, the front door area of the Club has a much improved climate for both staff and patrons. The heat transfer barrier has markedly improved working conditions for staff and the ambiance of the welcoming process for patrons. For the first time it feels that the air conditioners for this area are actually doing their job!"

Ted Hoddinott

Marketing/Media Manager at Lismore Worker's Club



The patented Inflector technology was initially developed by NASA in the 1960s for the space suit worn by astronauts.



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