An MHG Company

OptEma™ Plus

High Performance Insulated Glass

solos glass

see the possibilities

OptEma™ Plus High Performance Insulated Glass

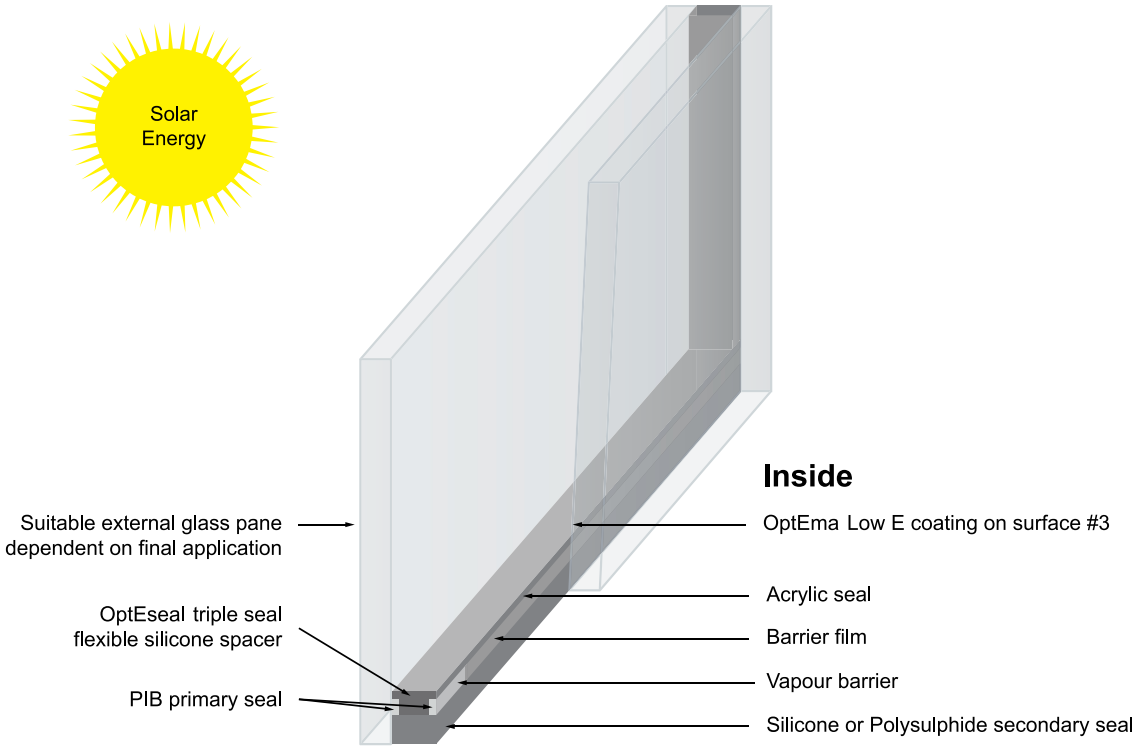
To complement the performance developments being made by Australia's window and door fabricators, we have taken the performance characteristics of our OptEma™ IGU product range and enhanced them even further.

Combining the product combinations and superior energy efficiency performance of the OptEma™ product range with the added benefit of the OptEseal™ warm edge IGU spacer, OptEma™ Plus plays a key role in maximising the overall energy efficiency performance of a selected range of glazed residential window and door suites.

By improving the overall thermal insulation of some window types by up to 9% compared to the same window glazed with the same glass make-up using a standard aluminium spacer bar, the OptEma™ Plus product range has been shown by the WERS assessment process to be producing some of the most energy efficient residential window and door solutions available in Australia

Driven by legislative requirements, the increasing cost of energy, a focus by framing manufacturers on introducing window profiles which reduce heat transfer and a developing knowledge amongst consumers of the role that the glazed elements of a building play in providing enhanced levels of comfort, the demand is growing for glazed window and door systems to become increasingly energy efficient.

That's where OptEma™ Plus comes into its own...



OptEma™ Plus High Performance Insulated Glass

Reduced Heat Conduction

Unlike an aluminium spacer bar, OptEseal™ has no metallic components. As such it is significantly less conductive, reducing the 'thermal bridge' effect, minimising heat transfer and subsequently reducing the total heat loss through the glazed window.

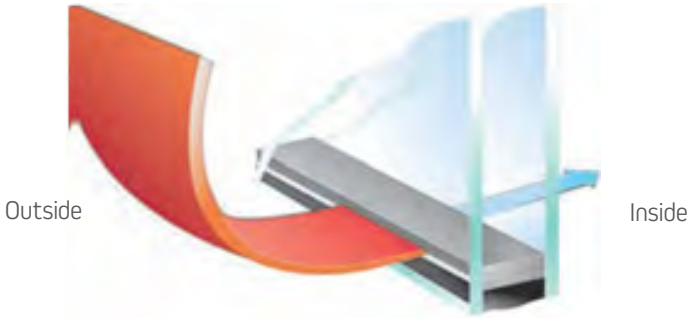
The result is an IGU which offers optimum levels of overall energy efficiency performance with some of the lowest total window 'U values' available.

Similarly, the OptEseal™ spacer reduces heat transfer from the outside to the inside through the spacer on warm or hot days, reducing the overall solar heat gain into the building.

By effectively blocking the heat path, on warm days the OptEseal™ spacer also enables the cooler air on the inside of the building to stay inside, enabling an OptEma™ Plus IGU to assist in providing a better controlled overall level of comfort to the home all the year round.

Prevents heat loss on a cold day

Reduces heat gain on a warm day



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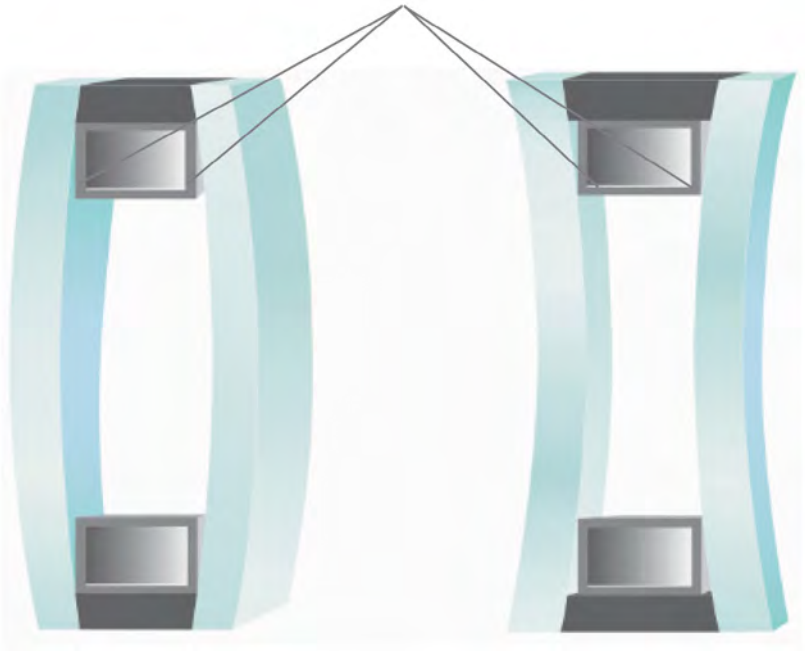
Reduced Sealant Stress

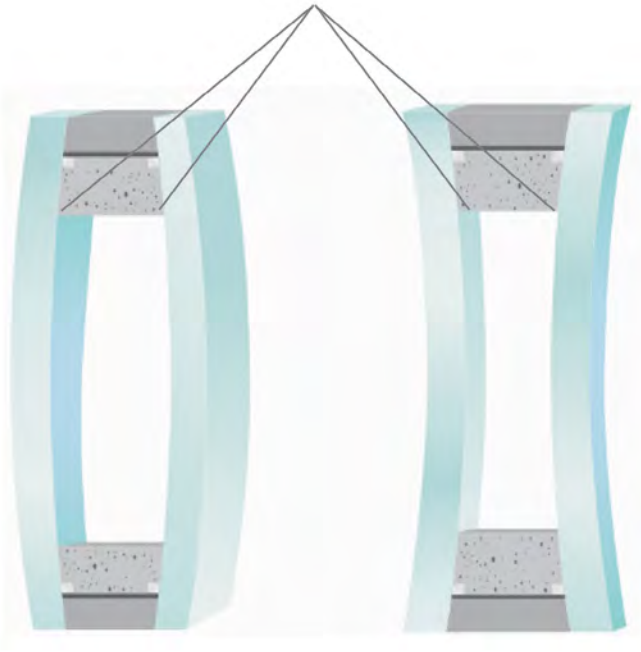
The OptEseal™ spacer used in the OptEma™ Plus IGU is manufactured using a thermoset silicone polymer material. As such it accommodates the natural expansion and contraction of the IGU caused by UV exposure, thermal expansion, wind loads and barometric pressure, always returning to its original shape.

This ability to expand and contract precludes any stress cracks and sealant movement which could occur when using standard aluminium spacers, which may lead to premature failure of the IGU.

IGU with aluminium spacer
PIB Not Contained



KlymetControl® Plus
Acrylic Adhesive, PIB Contained



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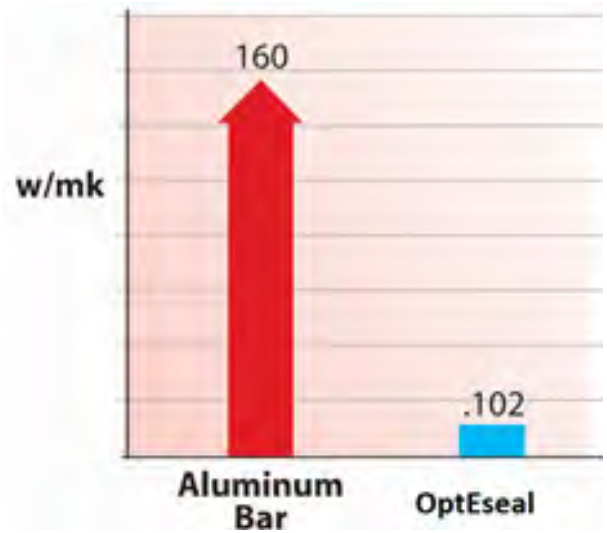
Improved Heat Flow Resistance

The OptEseal™ spacer resists heat flow at a rate of 1500 times more than aluminium spacers. This translates to not only an improved overall energy efficiency of a window or door glazed with OptEma™ Plus, but also increases the temperature of the glass and significantly reduces the opportunity for condensation to form, in turn assisting in the prevention of mould and harmful bacteria growth.

By effectively blocking the heat path, on warm days the OptEseal™ spacer also enables the cooler air on the inside of the building to stay inside, enabling OptEma™ Plus IGU to assist in providing a better controlled internal environment all the year round.

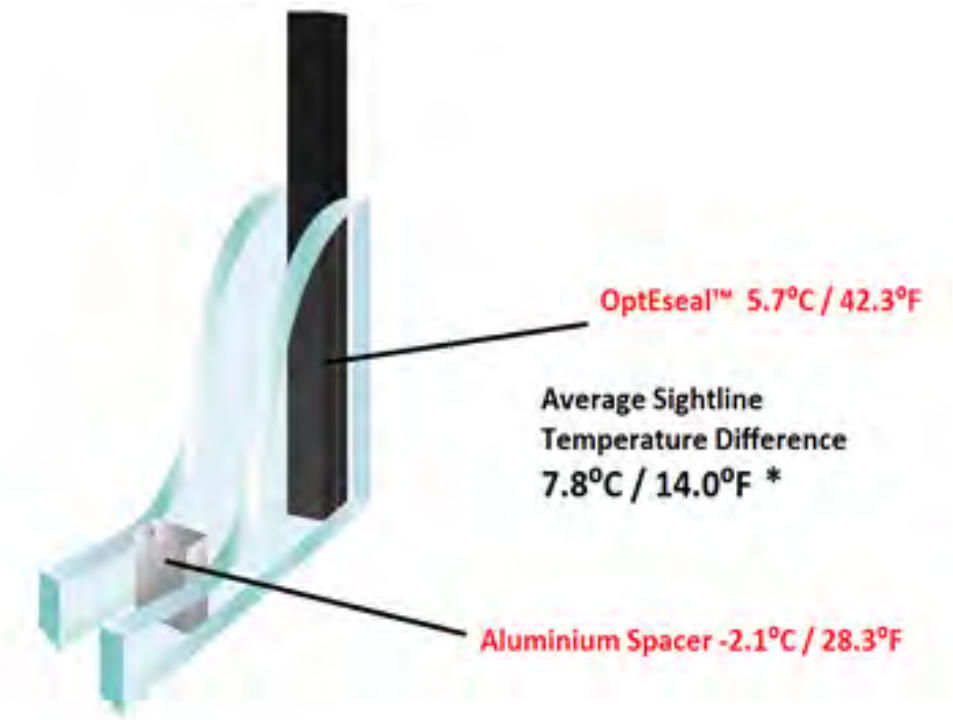


Higher Glass Temperature at the edge of the IGU

80% of the energy lost through a window occurs at the edge of the glass.

The OptEseal™ spacer has extremely low thermal conductivity in conjunction with the performance of the Low E coating within an OptEma™ Plus IGU means a warmer overall glass surface and less temperature variation across the surface of the double glazed unit.

In tests, IGU's glazed with a Low E IGU incorporating an OptEseal™ spacer showed nearly an 8°C improvement in the temperature at the sightline/edge of the glass when compared to the same IGU glass make-up incorporating an aluminium spacer, significantly improving the overall energy efficiency of the window system.



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WERS Performance

OptEma™ Plus has been assessed in a number of window suites as part of the Australian Window Energy Rating Scheme (WERS). The Window Energy Rating Scheme enables windows to be rated and labelled for their annual energy impact on a whole house, in any climate of Australia, details of which can be found at www.wers.net.

For specific details regarding the performance data of window suites incorporating OptEma™ Plus IGU's, please contact either the Sydney or Melbourne sales office or visit the WERS section in the Resource Centre.

Consistent Sightline

The absolute precision of the robotically applied OptEseal™ spacer results in clean, consistently flat sightlines on all 4 edges of the OptEma™ Plus IGU.

Further, the spacer is applied so it sits perfectly at right angles in the corner of the unit providing superb aesthetics with no spacer curvature.

*Simulations performed by Enermodal Enginnering Ltd using Window 5.2 and Therm 5.2 as per NFRC 100-2001. Outside temperature 0^0F, inside temperature 70^0F.