
Our core competence?
We make your facades future-ready.

Company Overview

In the building industry, Technoform is a global market leader in the field of high-precision thermal insulation profiles for aluminium windows, doors and facades, and thermal insulation components for energy efficient insulating glass.

With over 50 years of know-how and technical expertise, we have established a reputation for providing high quality solutions that meet stringent requirements globally.

Our global team of passionate people seek to connect with forward looking and like-minded organisations. Together, we hope to make the world better and more sustainable, one building façade at a time.

5
decades of experience in our field

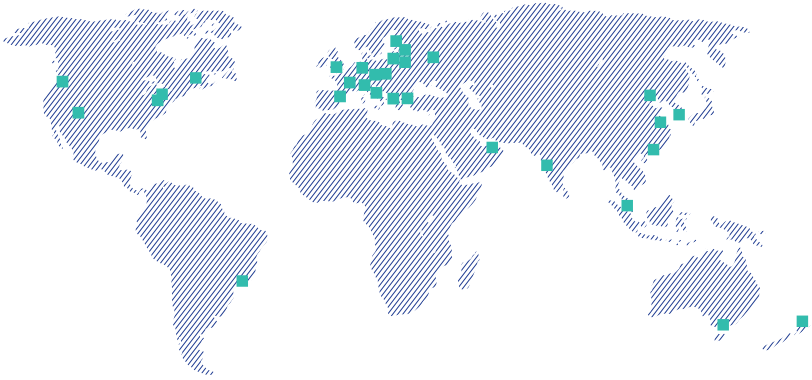
>45
sales sites offering local support

16
production sites globally

>1600
employees

>400
innovation patents filed worldwide

Offering You Our Support Worldwide



America	/	Europe	/	Middle East & Africa	/	Asia Pacific	
Balkans	c/o Milan office	**Poland**	Krakow	**India**	Mumbai	**Japan**	Tokyo
Belgium	Ghislenghien	**Spain**	Barcelona Tordesillas	**Middle East**	Dubai, UAE	**Korea**	Seoul
France	Genas Lyon	**Turkey**	Istanbul	**China**	Suzhou Beijing Shenzhen Shanghai Shenyang Hongkong Chengdu Linqu Hangzhou Xi'an Tianjin	**Singapore**	Singapore
Germany	Fuldabrück Kassel	**North America**	Twinsburg, OH Lafayette, OR Johnson City, TN			**Taiwan**	Taipei
Great Britain	Alcester Birmingham	**South America**	São Paulo Argentina			**Australia**	Melbourne
Greece	Thessalonica					**New Zealand**	Auckland
Italy	Milan						

Your Challenge: Fenestration Heat Gain in the Tropics

Do we know where the heat gain is coming from?

Our industry has typically focused on reducing center of glass (COG) U-value to drive down overall fenestration U-value. In Singapore, double glazed windows with low-e coating are commonly used in commercial buildings, reducing heat gain through the glazing.

From the below thermal image, we can see that the glazing area is yellow/green/blue, suggesting that it is relatively cool with little heat gain.

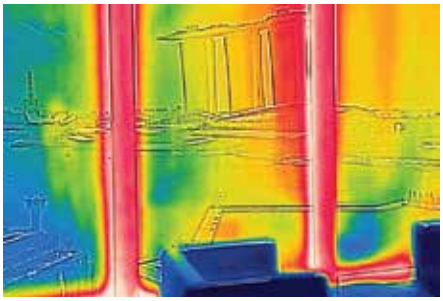


Image captured with FLIR Thermal Imaging Camera

However, there is still significant heat gain into the indoor environment, highlighted by the red region - the frame and edge of glass. The question now is - how can we address this to optimise the fenestration performance?

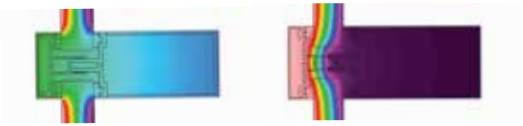
Our Solution: Designing for High-performance Facades

Reducing Heat Gain through Aluminum Frames

Fenestration frames are often made of aluminum, a good conductor of heat with a material thermal conductivity of 160W/mK.

By using a thermal break, the interior and exterior aluminum sections are separated, substantially reducing heat gain through the frames.

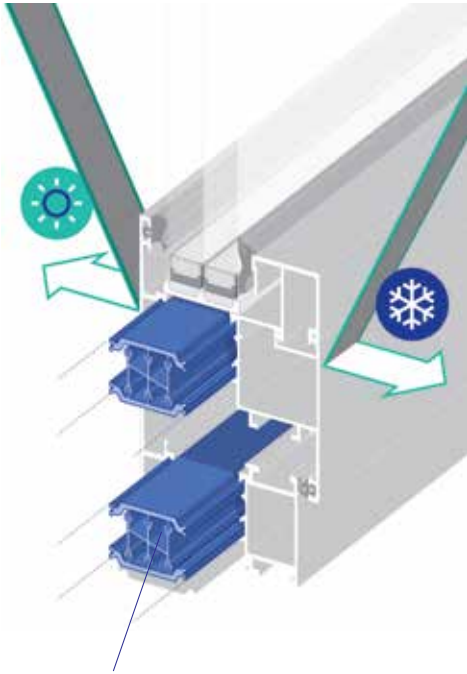
From a thermal simulation we conducted, there is over **70% reduction** in U-frame value from 17.1W/m²K to 3.0W/m²K.



Frame U-value: 17.1W/m²K
Frame SHGC: 0.309

Frame U-value: 3.0W/m²K
Frame SHGC: 0.053

Hot Cold

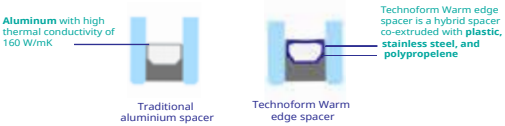


Technoform Thermal break with thermal conductivity 533x lower than aluminum

Our next step: Edge of Glass

After the frame performance is optimised, heat will then enter through the next weakest link: edge of glass.

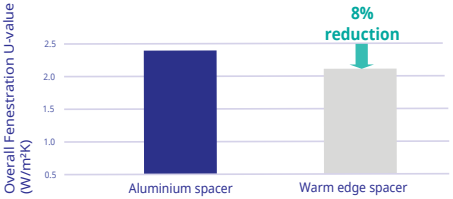
Typically, double glazed units are separated by aluminium spacers, which have high thermal conductivity, resulting in heat transfer at edge of glass.



However, Technoform Warm edge spacer is a thermally improved spacer, with a linear thermal transmittance almost 2 times better than traditional aluminium spacer.

Hence, when a warm edge spacer is used in place of an aluminium spacer, heat transfer at the edge of glass will be reduced.

Overall, the fenestration U-value is further **reduced by 8%**.



Beyond thermal performance, we also help ensure seamless aesthetics for your windows, doors and facades. Unlike aluminium spacers which have reflective surfaces, our spacers have a matte surface and come in various colors, matching the highest requirements of building designers.

Black Technoform Warm edge spacer

The overall results?

By designing for high-performance fenestration systems, you can achieve:

1. More energy efficient buildings
2. Improved carbon footprint
3. Better indoor thermal comfort for occupants

Conduct of experiment at BCA Skylab with thermally broken system on the left and non-thermally broken system on the right

Trialed and Tested

In collaboration with BCA, NUS and NEA, we conducted a study at the BCA Sky Lab to test the effectiveness of our thermal insulation solutions for facades.

Through the study, we found that a thermally broken system reduces peak heat flux by a whopping 59%!

For more information on the study, please contact us to find out more.

Pushing the Boundaries of Sustainability

Guaranteeing sustainability is at the core of what we do – every single day. Our solutions constantly insulate windows, doors, and facades to the highest degree, conserving valuable global resources in the process.

Our solutions have also received various local and international green building product certifications, such as:

- Singapore Green Building Product (3 ticks)
- CradletoCradle (Gold)
- Passive House Institute (phA and phB)

We have an Environmental Product Declaration (EPD) as well.

To date, our thermal insulation solutions have helped to save approximately 119 billion kWh of energy per annum, which is equivalent to 2.16 billion trees saved annually.

We are also a proud member of the following regional green building associations. By joining as an industry partner, we hope to value-add by sharing our 50 years of know-how in thermal insulation of building façade, supporting the industry in optimising building energy efficiency and the development of greener buildings.

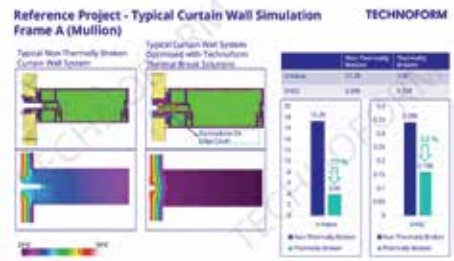
PSA TUAS PORT MAINTENANCE BASE
Singapore

First major building and the first Super Low Energy Building (SLEB) to be completed in Tuas Port

It’s our true belief in a strong partnership with our partners that makes the difference

At Technoform, we work with our partners to develop thermal insulation solutions for the building facade. Some of the services we provide include:

Consultation on design and optimisation of the thermal zone in facade systems to meet your performance targets



Simulation reports to showcase conformity to project requirements, helping you achieve the best price-performance ratio

Support and documentation for specification of thermal break and warm edge technology in your window/facade design

Technical support for thermal break assembly and insulating glass unit (IGU) manufacturing processes

THE OPUS
Dubai, UAE

Adopted fully glazed unitized curtain wall with thermally broken edge covers

DELOITTE TOWER
Quebec, Canada

Aggressive green building performance requirements puts the development and its tenants at the forefront of sustainable office design in Canada

TECHNOFORM

LEEZA SOHO

Beijing, China

Convexed shaped glass façade holding Technoform warm edge solutions

Looking to design for a high-performance facade? Speak with us today!

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