

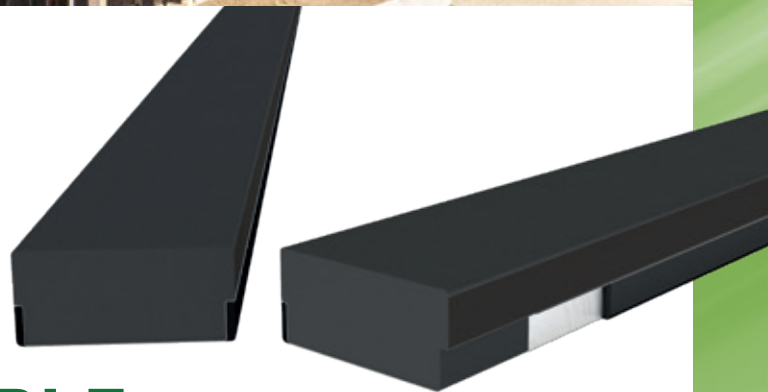
Super Spacer[®]



 **Edgetech**

A SUBSIDIARY OF  **Quanex**

SUPER SPACER[®]
FLEXIBLE, SUSTAINABLE,
WORLD-LEADING WARM-EDGE



Super Spacer®

FLEXIBLE, SUSTAINABLE, WORLD-LEADING WARM-EDGE

Freely shapable, subtle aesthetics and suited to either manual or automated application, Edgetech's celebrated Super Spacer® warm-edge spacer offers unparalleled flexibility.



Spacer technology plays a vital role in delivering energy efficient windows and façade systems. Passive Houses in particular would be impossible without the benefits that state-of-the-art warm-edge spacers bring. It's therefore no surprise that architects, property developers, window manufacturers and glass processors are prioritising warm-edge more than ever before.

EDGETECH SUPPORTING IGU MANUFACTURERS

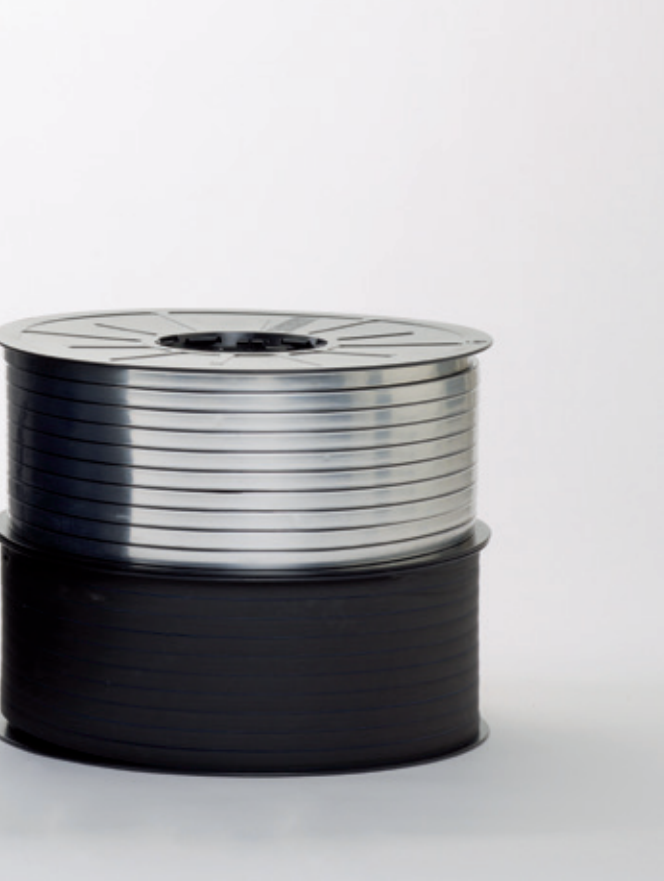
At Edgetech, we've been striving to help IGU manufacturers provide high-performance, energy efficient insulated glass units since 1989.

Our internationally respected Super Spacer® product has been installed in millions of homes, businesses and other commercial buildings in the decades since.

But we're not just a part of the supply chain, we are a partner here to help you achieve your goals. Whether you're looking for trusted quality, productivity or market-leading thermal efficiency, our experienced team are focused on providing the solution to help you achieve your business goals.

Today, we're a part of billion-dollar building products powerhouse Quanex, where we work with colleagues all around the globe to push the boundaries of warm-edge excellence.

Proudly a **'part of something bigger'**, we're dedicated to providing an outstanding place to work, giving great value to our shareholders, and supporting the communities we're a part of across Europe and beyond.



WARM-EDGE – DELIVERING OUTSTANDING ENERGY EFFICIENCY

Super Spacer® dramatically cuts heat loss, stops condensation, and helps ensure windows perform at their best for decades. Worldwide, more than 300 million metres of Super Spacer® are sold every year in more than 90 countries around the world, from Dubai to the Arctic Circle.

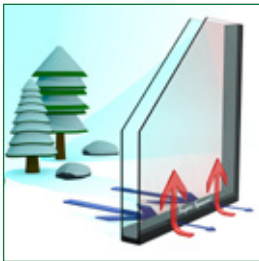
WHAT IS A WARM EDGE?

Spacers have been used to separate the panes of glass in double-glazed units for decades.

However, traditionally, those spacers were made of metal. This had major drawbacks and by far the biggest was that metal conducts heat. This meant that the finished windows offered very poor energy efficiency.

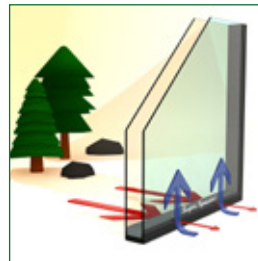
Warm-edge spacers are different. They're made of highly insulating material, meaning that the heat is retained.

They also prevent condensation, which can lead to mould and structural damage in and around a property.



COMFORTABLY WARM IN THE WINTER

Super Spacer® ensures even temperature distribution at the window panes and keeps the heat in the building.



PLEASANTLY COOL IN THE SUMMER

Super Spacer® minimises the heat exchange at the edges of the window panes and keeps the cool air indoors.





FLEXIBLE IN ALL RESPECTS

The flexible foam matrix of Super Spacer® is extremely permeable. Its high desiccant content can adsorb moisture rapidly. The combination of the multilayer vapour barrier in the spacer with the outer sealant prevents against moisture from the outside and gas loss from the inside.

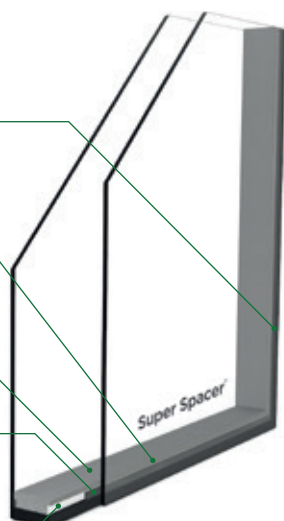
Secondary sealant polyurethane, polysulfide, hot melt butyl or reactive hot melt for window glazing, silicone for structural glazing (SSG)

Pressure-sensitive acrylic adhesive

Flexible (T-shaped) silicone structural foam

Polyisobutylene primary seal

Multilayer vapour barrier film



SUPER SPACER® HAS IT ALL

- low thermal conductivity
- fast dew point drop
- durable edge seal, continuous vapour barrier at corners
- moisture-adsorbing, flexible foam matrix
- high desiccant content adsorbs more moisture
- no chemical fogging*
- attractive aesthetic appearance
- high-quality silicone for superior resistance to UV-light and oxidation
- very good gas-loss rate values according to EN 1279 part 3
- optimum values for energy efficiency (Psi-Values up to 0.031**)
- enhanced comfort and well-being near windows
- excellent condensation resistance, shape retention and colour stability
- excellent durability for sustainable performance
- higher productivity through ease of processing (only three process steps)

* safe up to approx. + 80°C, higher depending on the test method

** Super Spacer® T-Spacer™ Premium Plus from structural foam processed in triple-pane insulating glass; source: Bundesverband Flachglas e.V. (German flat glass association)

LONG-TERM SUSTAINABILITY WITH SUPER SPACER®

The built environment is responsible for a huge portion of global carbon emissions. That means that making buildings more energy efficient is a vital part of international attempts to tackle the climate crisis – and that the outstanding insulation offered by Super Spacer® has a key role to play in helping us reach net zero.

FULFIL
THE STANDARDS
OF THE FUTURE

COMFORT AND CONVENIENCE

Thanks to its outstanding thermal performance, Super Spacer® can make winter draughts a thing of the past.

What's more, it can help ensure a healthier indoor climate: using a spacer with lower thermal conductivity minimises the risk of condensation at the edge of the window by up to 70 % compared to insulating glass windows using traditional metal bars.

PASSIVE HOUSE STANDARD FOR ARCTIC CLIMATES

Two warm edge spacers from the Super Spacer® product range considerably exceed the passive house standard of 1.50 mK/W for the specific edge resistance, and are therefore certified for use in Arctic climates and every other climate zone. Super Spacer® Premium was classified in the highest efficiency class of phA+ with an edge resistance of 6.11 mK/W.



EXCELLENT PSI-VALUES

Super Spacer® Premium offers excellent PSI values of up to 0.029* W/mK in terms of its heat transition, making it one of the most energy-efficient spacers on the market. The Psi-Values of the other Super Spacer® warm edge products also improve the U-Value of an insulating glass depending on its structures and coating compared to a unit with an aluminium spacer.

* Super Spacer Premium made of structural foam is processed in triple-pane insulating glass with hot melt sealing; source: Bundesverband Flachglas e.V. (German flat glass association)

OUTSTANDING APPEARANCE

With Super Spacer®, an exact edge seal comes as standard due to the parallel automated application that is precise down to the last millimetre. The non-reflective, matte material discreetly remains in the background.

DURABILITY AND STABILITY

Super Spacer® is UV-resistant and exceptionally well suited for use with gas-filled cavities. It is also compatible for use in even the harshest climates and glazing locations.

In traditional units with a rigid spacer, temperature fluctuations and movement of the glass can put pressure on the edge seal which over time reduces durability or even leads to fractures in the glass at the edge. Super Spacer® and the sealant instead flex with the glass to reduce pressure which ensures the unit longevity even in the toughest conditions.

The durability and resilience of Super Spacer® has been extensively tested. A shear stress test with two float glass panes that were 6.3 m x 3.21 m in size and 6 mm thick proved its ability to withstand even very high shear stresses. Super Spacer® TriSeal™ Premium Plus was only applied with included acrylic adhesive, no secondary seal was used. The unit was lifted by suction cups on one side and held for 30 minutes, without the glass pane opposite to the suction cups even slipping a single millimetre.

In a hurricane simulator, Super Spacer® TriSeal™ resisted a wind speed of 350 km/h without any difficulty when subjected to positive (windward side) pressure. When subjected to a negative (suction-) pressure it could withstand an even higher wind speed of 395 km/h. This easily surpasses the speeds stipulated in the most severe hurricane test in the world, the Miami-Dade County hurricane impact test.

SUITABLE FOR STRUCTURAL SEALANT GLAZING

Edgetech offers two triple edge seal systems, in the form of Super Spacer® TriSeal™ Premium Plus and Super Spacer® T-Spacer Premium and Premium Plus, which can be processed with silicone as the outer sealant. Both products have passed the conformance tests according to EN 1279 part 2 and 3 on many occasions. They are therefore ideal for structural glazing and facades.



Condensation frequently occurs where conventional metal spacers are employed.



Even spacers with a reduced metal content transmit heat, and condensation is thus still a factor.



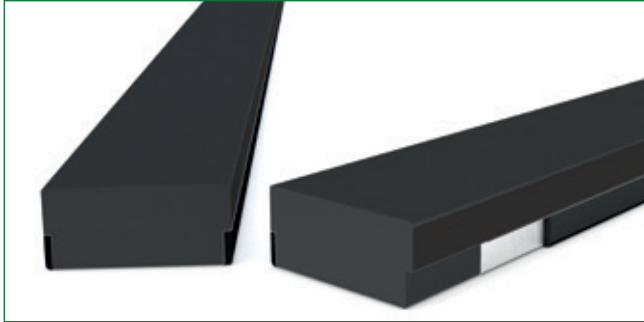
Patented structural foam reduces condensation dramatically and thus provides you with the clearest view using warm edge technology.



A WARM EDGE FOR EVERY APPLICATION

THE PRODUCT RANGE

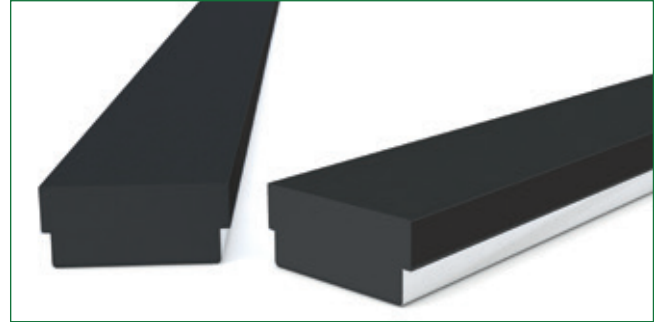
Super Spacer® is one of the most flexible warm-edge systems on the market. It can be processed accurately and efficiently for a huge range of shapes, sizes, radii, bends and angles. Manual processing of special shapes such as curved glass can be carried out quickly and accurately using the hand applicator.



SUPER SPACER® TRISEAL™ PREMIUM PLUS

The triple edge seal system Super Spacer® TriSeal™ Premium Plus meets the most stringent requirements, including being suitable for Structural Sealant Glazing (SSG). These flexible spacers are made of high-performance silicone foam, and are designed for simple manual processing of large format insulating glass and facade glass.

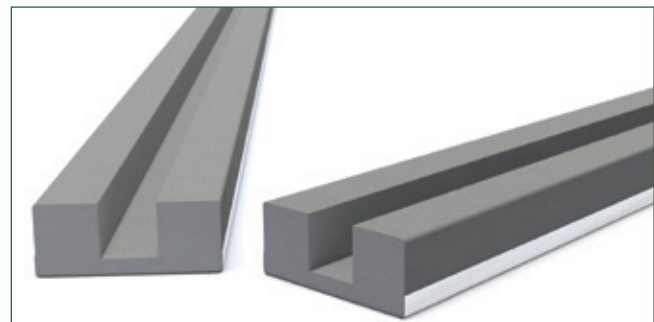
- Height: 7.3 mm
- Thermal conductivity: = 0.19 W/mK (tested in accordance with EN 12667, IFT WA 17/1)
- Gas/moisture vapour barrier: WVTR and oxygen transmission rate below measurable limit
- Pressure-sensitive acrylic adhesive
- Colours: black and grey (other colours upon request)
- North America ASTM E2188/E2189/E2190
- Europe EN 1279
- CEKAL certified for France



SUPER SPACER® T-SPACER™ PREMIUM AND PREMIUM PLUS

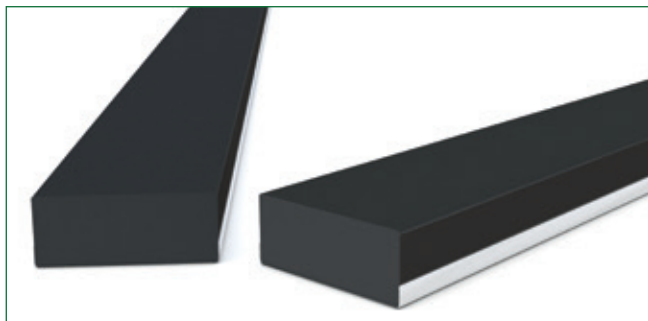
These flexible spacers made of silicone foam have a pressure-sensitive acrylic adhesive on the side and are a special T-shape, which enables highly efficient automated processing and application of the sealants (polyisobutylene and edge sealant) as well as long-term durability. Structural Sealant Glazing (SSG) requires UV-stable silicone sealing.

- Height: 6.3 mm (Premium), 7.3 mm (Premium Plus)
- Thermal conductivity: ≥ 0.15 W/mK (tested in accordance with EN 12667, IFT WA 17/1)
- Gas-/moisture vapour barrier: WVTR and oxygen transmission rate below measurable limit
- Pressure-sensitive acrylic adhesive
- Colours: black and grey (other colours upon request)
- North America ASTM E2188/E2189/E2190
- Europe EN 1279
- Canada CGSB 12.8
- CEKAL certified for France



SUPER SPACER® CUSHION EDGE™

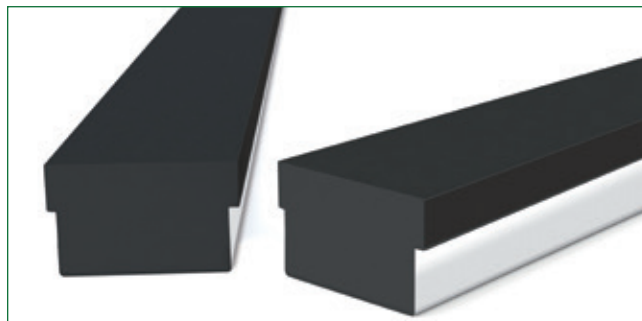
A flexible, U-shaped spacer, used to wrap around art glass and lead glasswork as the central pane of glass. By using two clear glass panes on the outside, it is then finished as a triple insulating glass.



SUPER SPACER® PREMIUM AND PREMIUM PLUS

The flexible silicone foam spacers Super Spacer® Premium and Premium Plus provide optimum thermal insulation of the edge seal for insulating glass units. Desiccant filled, with pre-applied side adhesive and a multilayer vapour barrier, the structural foam spacers significantly simplify sealed unit manufacture.

- Height: 4.8 mm (Premium), 6.4 mm (Premium Plus)
- Thermal conductivity: = 0.15 W/mK (tested in accordance with EN 12667, IFT WA 17/1)
- Gas-/moisture vapour barrier: WVTR < 0.020 g/m²/day; oxygen < 0.009 cc/m²/day (tested in accordance with ASTM F 1249, ASTM D 3985)
- Pressure-sensitive acrylic adhesive
- Colours: black and grey (other colours upon request)
- North America ASTM E2188/E2189/E2190
- Europe EN 1279
- Canada CGSB 12.8
- CEKAL certified for France

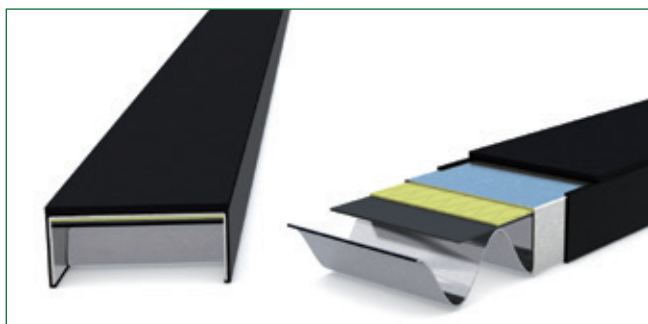


SUPER SPACER® T-SPACER™ SG SUPER SPACER® TRISEAL™ SG

Super Spacer® T-Spacer™ SG is a flexible, silicone foam spacer designed to satisfy the toughest commercial glazing demands including silicone structural glazing (SSG).

It incorporates an inner acrylic adhesive for immediate unit handling.

- Height: 7.3 mm
- Thermal conductivity: = 0.19 W/mK (tested in accordance with EN 12667, IFT WA 17/1)
- Gas-/moisture vapour barrier: WVTR and oxygen transmission rate below measurable limit
- Pressure-sensitive acrylic adhesive
- Colours: black and grey (other colours upon request)
- North America ASTM E2188/E2189/E2190
- Europe EN 1279
- Canada CGSB 12.8
- CEKAL certified for France



DURASEAL®

A single-seal, flexible insulating glass edge seal system, pre-assembled with air chambers, a butyl sealant, moisture barrier on three sides and a desiccant matrix. Suitable for high volume production of double and triple glazed insulating glass units which are sealed using heat and pressure.



MORE PRODUCTIVITY SUPER SPACER® FREES UP POTENTIAL

When processing Super Spacer®, cutting to length, application of polyisobutylene and filling with desiccant are not required. This frees up your employees to complete other tasks.

APPLICATION OPTIONS

Super Spacer® can be integrated in any production line regardless of the production requirements and system supplier. Three basic automation levels are available for the Super Spacer® production.

SUPER SPACER® MANUFACTURE OF INSULATING GLASS

- 1 Apply spacer
- 2 Place the second pane of glass onto the first, fill it with gas and press them together
- 3 Apply the sealant

MANUFACTURING PROCESS OF INSULATING GLASS USING CONVENTIONAL SPACERS*

- 1 Cut the spacers into shape/bend them/ fix them together
- 2 Fill it with desiccant
- 3 Apply polyisobutylene to the spacer
- 4 Suspend spacer on frame conveyor
- 5 Remove spacers from frame conveyor and fix on glass
- 6 Place the second pane of glass onto the first, fill it with gas and press them together
- 7 Apply the sealant

* Typical manufacturing processes when using a vertical manufacturing plant



CAPACITY UP TO 400 INSULATING GLASS UNITS MANUAL

8 hour shift manned by three people including glass washing, manual application of the spacers and manual application of sealant.



CAPACITY UP TO 600 INSULATING GLASS UNITS SEMI-AUTOMATIC

8 hour shift manned by three people with automated glass washing, manual application of the spacers and manual or automated sealing of the insulating glass units.

CAPACITY UP TO 1200 INSULATING GLASS UNITS FULLY-AUTOMATED

8 hour shift manned by two people with automated glass washing, automated application of the spacers, automated gas filling, and automated sealing of the insulating glass units.



**ALWAYS PRESENT IN
PRESTIGIOUS BUILDINGS**



Super Spacer[®]

A Part of Something BiggerSM

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