

# SUPER SPACER® STRUCTURAL SILICONE SPACER SYSTEMS

for high-performance, Warm Edge insulating glass units



## What is Warm Edge Technology?

“Warm Edge” refers to the thermal conductivity of the spacer used to separate the lites of an insulating glass unit. If the spacer material is less conductive than conventional aluminum, it is called warm edge.

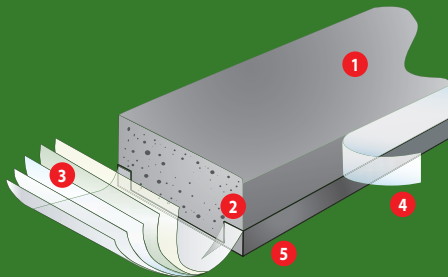
Most of the newer spacers perform better than aluminum, but still contain some metal, and this metal is highly conductive.

## What is Super Spacer?

Super Spacer® is an extruded, thermoset polymer structural silicone spacer with integrally incorporated desiccants. The shape of the thermoset polymer material is set during heat curing and can't be reshaped through reheating. Super Spacer retains its flexibility over a wide temperature range, always returns to its original cured shape and has a low compression set.

The silicone formula of Super Spacer exhibits excellent resistance to ozone, sunlight, oxidation and has excellent color stability.

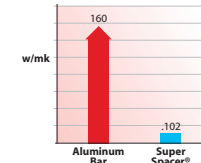
## Super Spacer Construction



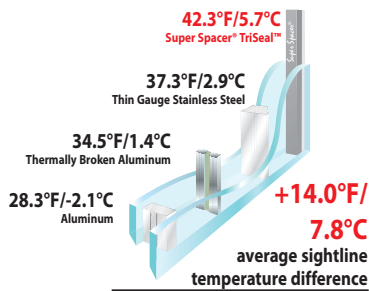
1. Smooth, matte finish guaranteed against blistering and bubbling.
2. Thermoset silicone matrix.
3. Proprietary multi-layer vapor barrier.
4. Structural adhesive combines with perimeter edge sealant for dual seal performance and durability.
5. Captive PIB primary seal for triple seal unit longevity (with Super Spacer TriSeal™).

## The NO-Metal Advantage

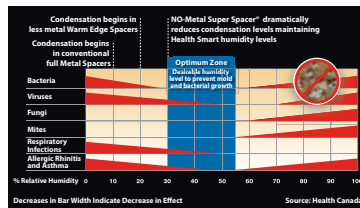
The edge of an IG unit is the most vulnerable part of the glass to heating and cooling losses, condensation and frosting. Quanex's Super Spacer contains NO-Metal and is one of the most thermally efficient IG spacers available in the market today.



Thermal Conductivity Chart



\*test notes can be found on the bottom of the next page



Optimum Humidity Chart



## Reduces Sealant Stress

Super Spacer's thermoset silicone polymer material expands and contracts and always returns to its original shape. Rigid spacers do not accommodate the natural expansion and contraction caused by glazing pressure, thermal expansion, wind loads and barometric pressure. The results are stress cracks and sealant movement that eventually lead to seal failure.

Super Spacer sealed IG units last up to five times longer in durability tests than conventional single seal units. Super Spacer features superior Argon and Krypton gas retention.

## Maximizes Heat Flow Resistance

Super Spacer resists heat flow at a rate of 1500 times more than that of aluminum. This means lower energy costs, less condensation/frosting and reduced chances for mold growth.

## Improves Glass Surface Temperature

Super Spacer's extremely low thermal conductivity means less variation in the surface temperature of the IG unit.

The surface temperature of the glass at the sightline, or the edge of the IG units, with Super Spacer® TriSeal™ is typically 14°F / 7.8°C warmer than with a conventional aluminum spacer.

## Improves Condensation Resistance

Mold needs moisture to grow. The significantly reduced tendency of IG units fabricated with Super Spacer to exhibit interior condensation or frosting means that the health problems associated with mold may be virtually eliminated.

Research done by Health Canada found that Super Spacer helped IG units stay in the optimum low-humidity zone that prevents mold and bacteria growth.

## Promotes Sound Absorption

The closed-cell polymer of Super Spacer transmits very little sound compared to conventional aluminum or less-metal warm edge spacers.

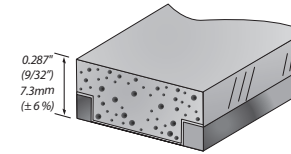
We recommend the use of Super Spacer wherever noise from airplanes, trains or automobiles may be a problem for building occupants.

## Globally Tested and Proven with Awards

Super Spacer is the world's first polymer, NO-Metal warm edge spacer. Over 1 billion feet of Super Spacer has been used worldwide since the start of production in 1989. The company received the 1994 "Solar Company of the Year" award issued by Solar Energy Society of Canada, Inc. Super Spacer was awarded the DWM Green Product Award in both 2009 and 2010.

Test Data is available to show that IG made with Super Spacer meets and/or exceeds standards used in the USA, Canada, Europe and many other locations around the globe. Super Spacer also meets Dade County Hurricane standards.

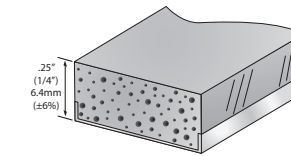
## for Architectural Structural and Captured Glazing Units



### TRISEAL™

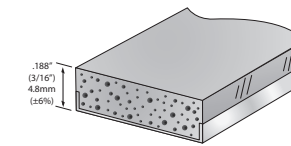
Available Sizes: 0.323" (8.2mm) to 0.874" (22.2mm) airspace  
Standard Colors: Black, Grey and Aluminum Grey  
Optional Colors: Are Available (Minimum Order Required)  
Custom Options: As defined by Specifier (Minimum Order Required)

## for Architectural Captured Glazing Units



### PREMIUM PLUS

Recommended for IG greater than 65 sq. ft. (6m<sup>2</sup>)  
Available Sizes: 0.125" (3.2mm) to 0.787" (20.0mm) airspace  
Standard Colors: Black, Grey and Aluminum Grey  
Optional Colors: Are Available (Minimum Order Required)  
Custom Options: As defined by Specifier (Minimum Order Required)



### PREMIUM

Available Sizes: 0.188" (4.8mm) to 0.787" (20.0mm) airspace  
Standard Colors: Black, Grey and Aluminum Grey  
Optional Colors: Are Available (Minimum Order Required)  
Custom Options: As defined by Specifier (Minimum Order Required)

## COMPARISON OF SUPER SPACER PRODUCT PERFORMANCE

	Aluminum Spacer	Stainless	TriSeal™	Premium/Premium Plus
Glass Surface Temperature	Poor	Good	Excellent	Excellent
Thermal Performance	Poor	Good	Excellent	Excellent
Condensation Resistance	Poor	Good	Excellent	Excellent
Edge Seal Integrity	Good	Very Good	Excellent	Excellent
Dew Point Drop	Good	Good	Excellent	Excellent
Sound Absorption	Good	Good	Excellent	Excellent
Sealant Stress Reduction	Good	Very Good	Excellent	Excellent
Compression Set	Good	Good	Excellent	Excellent
UV Resistance	Excellent	Excellent	Excellent	Excellent
Desiccant Capacity	Excellent	Excellent	Excellent	Excellent
Structural Strength	Excellent	Excellent	Excellent	Excellent
Volatile Out-Gassing	Pass	Pass	Pass	Pass
Triple Glaze	Yes	Yes	Yes	Yes
Wind Loading	Very Good	Very Good	Excellent	Excellent
Captured Glazing	Yes	Yes	Yes	Yes
Structural Glazing	Yes	Yes	Yes	No
Compatible with Performance Coatings	Yes	Yes	Yes	Yes
Standard Colors	Varies	Varies	Three	Three
Optional Colors	Available	Available	Available	Available
Custom Colors	Available	Available	Available	Available

\*Simulations performed by Enermodal Engineering Ltd. using Window 5.2 and Therm 5.2 as per NFRC100-2001. Outside temperature 0° F, inside temperature 70° F. Low-e glass PPG Solarban 60 with 6mm glass. Air spaces .500" wide, 90% argon fill. IGUs 24" x 48". 1/4" of silicone secondary sealant was used on all spacers. Temperature results shown are average temperatures.

# Specifying Super Spacer®

## PART 1 - GENERAL

### References (contact Quanex for details)

1. North America ASTM E2188/ E2189/ E2190
2. European EN 1279
3. Canadian CGSB 12.8
4. ASTM E330 (120\* psf positive, 155\* psf negative)
5. French Standard CSTB for CEKAL
6. Industry type P-1 testing

\* no failure; maximum limitations of testing equipment

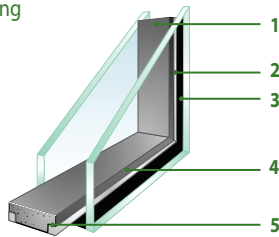
### System Description

Super Spacer is a flexible, silicone product providing maximum perimeter insulation for sealed insulating glass units. It is desiccant filled with pre-applied adhesive for bonding to the glass with a vapor barrier backing.

### Submittals

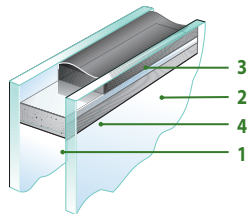
**Super Spacer® TriSeal™** features a continuous vapor barrier backing across the profiled back of the spacer and is engineered to accept both a butyl primary seal and a silicone secondary seal.

1. Thermoset structural silicone containing NO-Metal with integral 3A desiccant
2. PIB primary seal
3. Silicone, Polyurethane, Polysulfide, DSE/DSA's or Hot Melt secondary seal
4. Pressure-sensitive acrylic adhesive
5. Pre-applied advanced multi-layer vapor barrier



**Super Spacer® Premium Plus and Premium** are flexible, silicone spacers that provide the maximum in perimeter insulation for sealed glazing units.

1. Thermoset structural silicone containing NO-Metal with integral 3A desiccant
2. Pre-applied sealant/adhesive for glass bonding
3. Secondary Sealant
4. Pre-applied advanced multi-layer vapor barrier



### Quality Assurance

The company has also earned the Solar Company of the Year Award from the Solar Energy Society of Canada Inc., the DWM Green Product award and the Crystal Achievement Award for various marketing programs.

### Warranty

Quanex warrants that the Product (Super Spacer Premium Plus, Premium and/or TriSeal) will be free from manufacturing defects at the time of shipping from Quanex. Further, Quanex agrees to replace any Product (Super Spacer Premium Plus, Premium and/or TriSeal) that fails because of manufacturing defect. Super Spacer Premium Plus, Premium, and/or TriSeal are guaranteed not to blister or bubble within 40 years of purchase.

This warranty applies under conditions of normal use by window manufacturers and does not apply to defects that result from intentional damage, improper storage or excessive exposure prior to use. This warranty does not apply to edge-seal workmanship, which is the responsibility of the insulating glass manufacturer.

## PART 2 - PRODUCTS

### Manufacturer

Quanex Building Products • 800 Cochran Avenue • Cambridge, Ohio 43725 • USA  
T: 740.439.2338 • Toll Free: 866.TRUEWARM • F: 740.439.0121  
[www.Quanex.com](http://www.Quanex.com)

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### Insulating Glass Units

Specification Description:

**Super Spacer TriSeal** — a triple seal design suitable for Structural Glazing, consisting of a thermoset silicone spacer incorporating integral 3A desiccant, pre-applied adhesive for glass bonding, a captive polyisobutylene primary seal, and a structural seal.

**Super Spacer Premium Plus and Premium** — a reverse dual seal design consisting of a thermoset silicone spacer, multi-layer vapor barrier and preapplied sealant/adhesive for glass bonding requiring a secondary seal.

Please refer to [www.superspacer.com](http://www.superspacer.com) for recommended IG sealants Technical Bulletin RD0018.

## PART 3 - EXECUTION

### Installation

No special procedures required for Insulating Glass units fabricated with the Super Spacer system; limit spacer compression at installation to 1mm.

### Field Quality

No special inspection procedures required for IG units fabricated with the Super Spacer system.

### Protection

Follow usual requirements for protecting IG units.

**AVAILABILITY** Super Spacer products are available throughout the world through insulating glass manufacturers, dealers, distributors and direct from Quanex Building Products. Please contact the location nearest you for further information, technical data, specifications, samples or a list of insulating glass fabricators using Super Spacer.

**Quanex**  
building products



Waterless printing on FSC certified paper,  
recycled with 10% post consumer waste

[www.Quanex.com](http://www.Quanex.com)