

TriSeal[™] *Super Spacer*

Superior
**quality PIB
application**

"Hot Applied"
fully automated application
for **maximum
PIB adhesion**

TriSeal's unique
**T-shape design
anchors the spacer**
in the correct position and
**holds the PIB
captive**

TriSeal provides
**Superior
energy
performance**

See Performance
Improvement table
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Land and Housing Corporate Headquarters Jinju, Korea

This prestigious project used IGs with structural silicone spacer, and was manufactured by a local fabricator.

TriSeal[™] structural silicone, warm edge spacer system.

The standard for the most demanding commercial insulating glass installations.

- **Structural Strength** for heavy laminated glass in floor-to-ceiling and wall-to-wall sizes
- **Proven Durability** with triple edge seal construction to maximize IG life
- **Thermal Performance** with extremely low U-factor to reduce energy costs in all climates
- **Compensates for common glazing stresses** including wind, snow, rain and temperature
- **Robust silicone construction** provides proven structural strength

Get the best in aesthetics, energy efficiency, strength and durability for your next architectural glazing project with Hartung Commercial IG featuring TriSeal.





Robotically-applied captive PIB minimizes migration and ensures long-term durability

Hartung's Automatic TriSeal™ Applicator simultaneously feeds and applies a continuous strip of warm edge spacer and PIB directly to the glass surface. TriSeal's T-shape captive PIB prevents polyisobutylene from creeping into the sightline even over long spans.

HGI's fully-automated insulating glass line requires no manual manipulation, dramatically reducing seal failures caused by human contact during the manufacturing process. Automatic edge deletion, gas fill and spacer application equipment provides an incredible level of accuracy for a fast and efficient material flow.

Robust silicone construction provides proven structural integrity

TriSeal™ is a structural, silicone spacer designed to satisfy the toughest commercial glazing demands including silicone structural glazing. Its unique triple-seal design incorporates an inner acrylic adhesive seal for immediate unit handling.

Superior PIB seal increases argon gas retention

TriSeal comes complete with a polyisobutylene primary seal for enhanced gas retention and low moisture vapor transmission, and the silicone secondary seal provides proven structural performance. Test data is available to show TriSeal meets and/or exceeds the most stringent standards.

TriSeal units withstand 140°F/60°C temperatures, 95-100% humidity and constant UV bombardment in the world's toughest durability test - The P-1 chamber.

Reduces sealant stress

TriSeal thermoset polymer material expands and contracts and always returns to its original shape.

TriSeal IG units last up to five times longer in durability tests than conventional single seal units and features superior Argon gas retention. Passes multiple cycles of ASTM 2190 for insulating glass durability.

Maximizes heat flow resistance

The all-foam formula blocks heat transfer and provides one of the best thermal performances available.

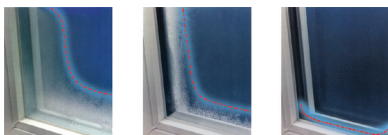
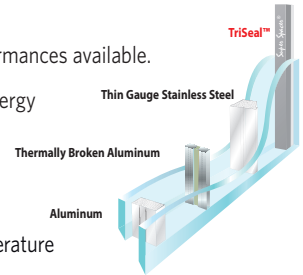
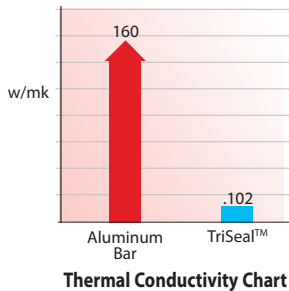
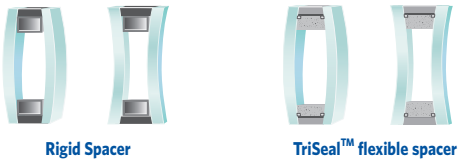
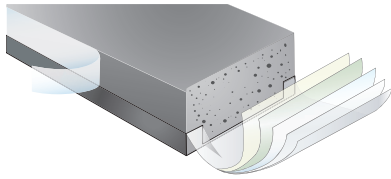
TriSeal resists heat flow 950 times more than that of aluminum. This means lower energy costs, less condensation/frosting and reduced chances for mold growth.

Improves glass surface temperature


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

Improves condensation resistance

Mold needs moisture to grow. Moisture can increase the likelihood of fungi, viruses and mites that can cause infections, allergies and asthma. The significantly reduced interior condensation or frosting means that the health problems associated with mold may be virtually eliminated.



Performance Improvement Up to 0.03 U Factor and 55% Condensation Resistance Improvement

IG Configuration	Aluminum Box Spacer				 TriSeal			
	U Factor	SL Temp °F	SL+1/2" Temp °F	CR	U Factor	SL Temp °F	SL+1/2" Temp °F	CR
SB 60/CLR - Air	0.337	25.8	33.9	22.9	0.312	36.8	40.5	41.4
SB 70XL/CLR - Air	0.332	25.8	33.9	22.9	0.307	36.8	40.5	41.5
SB 60/CLR - Argon	0.296	26.5	35.3	23.2	0.270	38.4	42.6	42.5
SB 70XL/CLR - Argon	0.290	26.5	35.4	23.2	0.264	38.5	42.7	42.7
SGSN54/CLR - Argon	0.296	26.6	35.4	23.3	0.269	38.4	42.6	42.5
SGSN68/CLR - Argon	0.298	26.6	35.4	23.3	0.271	38.4	42.6	42.4
SGSNX5123/CLR - Argon	0.291	26.6	35.4	23.3	0.265	38.5	42.7	42.6

Performance numbers calculated by MMM Group, Kitchener, ON. Results are for IG only, 48" x 60", 6mm Glass + 1/2" airspace.

CR = Condensation Resistance SL = Sightline U Factor = Total IGU U Factor (BTU/hr-ft²-F)