

JEB 3Seal™ HM+



*High-Performance, Warm-Edge Insulating Glass Spacer
with High-Modulus Structural Silicone*
Meeting the Toughest Glazing Demands



All the jobs above used the JEB 3Seal™ product line.

JEBERKOWITZ
ARCHITECTURAL GLASS SINCE 1920

JEB 3Seal™ HM+ Advantages



Limits PIB Migration:

Superior quality, fully automated hot-applied PIB application, acrylic adhesive and spacer's unique t-shaped design limit PIB primary seal migration

Improves Argon Gas Retention:

High-strength and high-modulus properties minimize stress on PIB primary seal and improve argon gas retention rates

Delivers an Extremely Straight Sightline:

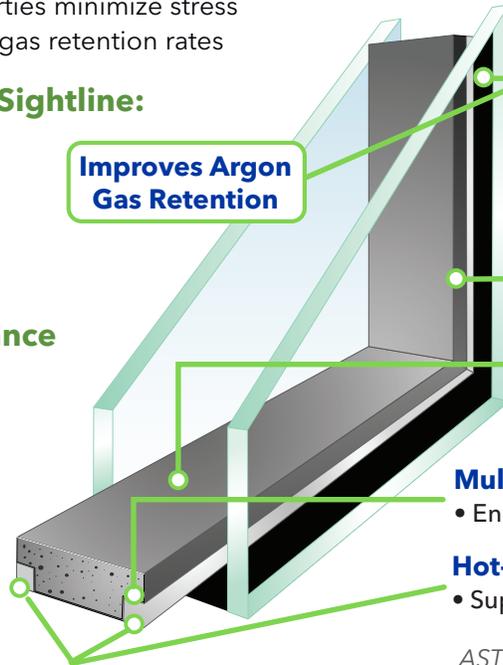
Robotic spacer application and high modulus silicone deliver a sleek sightline and thin profile, delivering a clean aesthetic for the toughest commercial glazing demands

Increases Condensation Resistance Factor (CRF):

Minimize condensation and maintain ideal humidity levels, especially critical with healthcare, luxury high-rise and other demanding glazing installations

Improves Sound Attenuation:

Use wherever noise from airplanes, trains or automobiles may be a concern for building occupants



Improves Argon Gas Retention

High-Modulus Silicone Secondary Seal

- **35% higher design strength** than standard sealants
- **Sleeker sightlines** for insulating glass units

Acrylic Pressure-Sensitive Adhesive

- Helps Limit PIB Migration

JEB 3Seal Structural Silicone Spacer

- Increases thermal performance
- Robotically applied for extremely straight sightline

Multi-Layer Vapor Barrier

- Enhanced moisture barrier properties

Hot-Injected PIB Primary Seal

- Superior fabrication and automated application

ASTM E2188/E2190
Twice Tested, Twice Approved
IGCC Certified with Argon

Concerned with Condensation?



Your Vision. **BUT** You Got This.

We can achieve your vision with JEB 3Seal™ HM+ Warm-Edge Spacer.

Low conductance spacer with hot-injected PIB primary seal, enhanced moisture barrier properties and embedded 3A desiccant molecules on all four sides of the 3Seal HM+ spacer, drive increased condensation resistance factors, critical for healthcare, luxury high-rise and other demanding glazing installations.

Project Case Studies



T-Mobile Arena - Las Vegas, NV Tasked with designing T-Mobile Arena to stand out among the glitz and glamour of Las Vegas, Kansas City-based Populous paired a serpentine-like metal skin with an architectural outward-sloping, elliptical glass façade that's as curvy as it is complex.

The 650,000-square-foot, multi-purpose facility's main curtain wall incorporated cold-formed glass, a unique application that requires bending an insulating glass unit into its final, installed position. The insulating glass units (IGUs) arrived at the jobsite in flat, trapezoidal shapes. In order to conform the glass to the sloping and elliptical shape of the arena's main curtain wall elevation, it was necessary to cold form each lite into its own unique shape by hand. Each IGU's base was inserted into the curtain wall frame, followed by one of the upper corners. Then the final corner was physically pushed into its twisted, cold-formed position.

For the project, J.E. Berkowitz fabricated 34,000 square feet of Winduo™ IGUs featuring ¼-inch SunGuard® SNX 51/23 low-e glass by Guardian Glass, a ½-inch JEB 3Seal warm-edge spacer, and ¼-inch clear heat-strengthened glass.

The JEB 3Seal spacer was integral to the project's success, enabling the IGUs to retain their structural and thermal integrity during and after installation.

T-Mobile Arena is expected to earn LEED® Gold certification from the U.S. Green Building Council.



Mint Museum Tower - Charlotte, NC Clad in glass and rising 43 floors on top of the Mint Museum in Charlotte, North Carolina, Museum Tower is the city's latest luxury living destination. The building's floor-to-ceiling windows not only provide dramatic views of the Queen City's skyline, but also played an important role in the project's construction.

Atlanta-based Rule Joy Trammel + Rubio architects designed the high-rise to complement the contemporary architecture of the existing Mint Museum. However, since the Mint Museum remained open during construction, the team faced a unique challenge in which they weren't able to use exterior scaffolding. Instead, the architects designed Museum Tower to be built from the inside out using an interior glazed window system and limited exterior walls.

J.E. Berkowitz fabricated Winduo™ IGUs incorporating high-performance, low-e SunGuard® SuperNeutral® Reflective 43 CrystalGray glass and clear glass by Guardian Glass, separated by the JEB 3Seal warm-edge spacer.

The JEB 3Seal spacer was an important component in the IGU configuration, offering reduced edge-seal stress, improving total wall performance, increasing condensation resistance factors, and mitigating PIB primary seal migration.

Museum Tower is expected to earn LEED® Silver certification from the U.S. Green Building Council.

Specifying JEB 3Seal HM+

1. Insulating Glass Unit Makeup:

- a. Outboard Lite
 - 1) Glass Type: [_____]
 - 2) Glass Thickness: [_____]
- b. Airspace
 - 1) Spacer: JEB 3Seal HM+
 - 2) Nominal Thickness: [3/8" to 1"]
 - 3) Gas Fill: [Air] [Argon]
- c. Inboard Lite
 - 1) Glass Type: [_____]
 - 2) Glass Thickness: [_____]

2. Performance Characteristics

- a. Visible Transmittance: [_____] %
- b. Visible Reflectance: [_____] %
- c. Winter U-value: [_____]
- d. Solar Heat Gain Coefficient (SHGC): [_____]

- 3. Provide hermetically sealed IGUs** with a thermoset silicone spacer incorporating integral 3A desiccant in all sides, a triple seal design consisting of a pre-applied acrylic adhesive for spacer to glass bonding, a hot-applied captive polyisobutylene primary seal and a two part high-modulus structural silicone secondary seal.

4. North American - Harmonized IGCC Certification

- a. Insulating glass units are certified through the Insulating Glass Certification Council (IGCC) and Insulating Glass Manufacturers Alliance (IGMA) to ASTM E2190.

System Description

The JEB 3Seal HM+ spacer is a structural silicone product, providing maximum perimeter insulation for sealed IGUs. It is desiccant filled and has pre-applied adhesive for bonding to the glass with a vapor barrier backing.

Fabricator

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JEBerkowitz.com

****For specification assistance, contact Gary McQueen at 410.441.4114 or gmcqueen@jebkowitz.com**

**Learn more at JEBerkowitz.com/JEB-3Seal
856.456.7800 or toll free at 800.257.7827**



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J.E. Berkowitz, a Consolidated Glass Holdings, Inc. company, is a leading architectural glass fabricator in the United States. As an ISO 9001:2015 certified company, we are committed to excellence and quality in the processing and distribution of architectural glass products, technical support, and LEED® certification assistance.