BACKGROUND

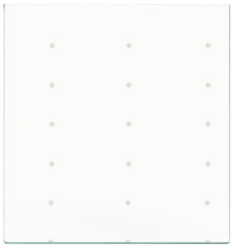
Every year, hundreds of millions of birds are lost due to collisions with glass on human built structures. Bird window strikes are a major factor in the decline of the global bird population. Nearly a third of all Avian species in the U.S. have been documented in collision events from Falcons to Hummingbirds. Glass in buildings can confuse birds due to reflection, transparency, and passage effect. To help reduce bird collisions the American Bird Conservancy has developed threat factors for different types of Bird Friendly products thought their tunnel testing method. These threat factors have been used in many regional and municipal building codes.

PRODUCT DESCRIPTION

Bird Smart™ glass combines the visual deterrence of a Laser Etch pattern on Surface #1 with Vitro *Solarban*® coatings on Surface #2. Each of the *BirdSmart™* offerings have been evaluated through the American Bird Conservancy and have been assigned individual threat factors. This allows fabricators to meet the bird-friendly requirements while achieving the energy performance standards your project requires. It must be heat treated and placed in an IG or Laminate.

BIRDSMART™ PRODUCT DETAILS AND AVAILABILITY

BirdSmart™
Speck 6 Inline 2x2
Threat Factor: 20



BirdSmart™
Speck 6 Inline 2x4
Threat Factor: 25

BirdSmart™
Speck 6 Shift 2x4
Threat Factor: 25

BirdSmart™
Speck 6 Shift 2x2
Threat Factor: 20

To provide multiple variations of designs while protecting birds' safety Vitro offers a combination of *BirdSmart™* Laser Etching on surface #1 along with our Low E coating on surface #2.

- Four Patterns: *BirdSmart™ Speck 6 Inline 2x2, BirdSmart™ Speck Inline 2x4, BirdSmart™ Speck 6 Shift 2x4, and BirdSmart™ Speck 6 Shift 2x2*
- Three *Solarban*® low-e coatings: *Solarban® 65, Solarban® 70, Solarban® 72*
- Three Substrates: *Clear, Starphire®, Acuity®*
- Glass Thickness: *6mm only*
- Glass Sizes: *96"x130", 100"x144", 130"x204", 130"x240"*

SOLAR PERFORMANCE VALUES [1]

Insulated Glass Unit Performance Comarisons 1-inch units (25mm) units with ½ inch (13mm) airspace and two ¼- inch (6mm) lites

Products		Transmittance	Visible Light Reflectance		NFRC U-Value (BTU/hr°ft²°F)		Solar Heat Gain Coefficient	Color Rendering Index (CRI)
Coating	Substrate	Visible (%)	Exterior (%)	Interior (%)	Winter Nighttime	Winter w/Argon		
SB65	Clear + Clear	70	14	15	0.29	0.24	0.35	96
SB65	Acuity® + Acuity®	72	15	15	0.29	0.24	0.36	98
SB65	Starphire® + Starphire®	73	15	15	0.29	0.24	0.36	99
SB70	Clear + Clear	64	13	14	0.28	0.24	0.27	91
SB72	Acuity® + Acuity®	67	13	14	0.28	0.24	0.28	94
SB72	Starphire® +	68	13	14	0.28	0.24	0.28	95

[1] All performance data calculated using LBNL windows 7.3 software and represents center of glass performance data. For detailed information on the methodologies used to calculate the aesthetic and performance values in this table, please visit vitroglazings.com or request our Architectural Glass Catalog

Thermal Composition and Mechanical Properties remain the same as the actual substrate of the glass being used. (Clear, *Acuity®,* or *Starphire®*) Please consult the specific Product Data Sheet for the actual Thermal and Mechanical properties.

HEAT TREATMENT GUIDELINES

While heat treating the *BirdSmart™* glass products the Laser Etched surface should be face down against the furnace rolls. This allows the *Solarban®* coating to face away from the furnace rolls. Even if the *BirdSmart™* product is uncoated the laser etched surface should be faced down in contact with the furnace rolls. If the glass has a *Solarban®* coating, turn off the SO_2 in the furnace. SO_2 may cause an appreciable loss in durability of the *Solarban®* coating. Degradation is the result of the SO_2 reducing the atmosphere causing potential damage to the coating. The glass heat cycle time will remain the same as compared the same as *Solarban®* coated glass without the laser etch. Uncoated *BirdSmart™* should be processed based on the cycle time of the substrate of the glass.

CLEANING AND DURABILITY

The Laser Etched Surface of *BirdSmart™* requires no different cleaning care than standard accepted practices for normal float glass. More complete cleaning instructions are available in Vitro's Technical Document TD-142 Glass Cleaning Recommendations.

SUSTAINABILITY

To provide architects with the assurance and documentation they need to meet and verify their sustainability goals, Vitro Architectural Glass participates in a range of programs and initiatives. Resources available include, but are not limited to:

Type III Environmental Product Declarations
Cradle to Cradle Certifiied™ Bronze with associated Gold Material Health Certificate
LEED® and Living Building Challenge documentation
Material Ingredient Disclosure and Safety Data Sheets
Annual Corporate Sustainability ReportFurther information is available through VitroGlazings.com or by calling 855-887-6457 (VTRO GLS)

Additional Resources

American Bird Conservancy (ABC) – Bird Friendly Building Design
National Glas Association (NGA) – Best Practices for Bird Friendly Glazing Design (DG01-21)
National Glass Association (NGA) – Bird Friendly Glass Design Strategies (FB35-12)

To obtain samples of any Vitro Glass product, call 1-855-VTRO-GLS (877-6457) or visit **samples.vitroglazings.com.** For videos design insights and technical education, visit the Vitro Education Center at **glassed.vitroglazings.com.** For glass comparison and configuration tools, visit **tools.vitroglazings.com.**