

WALKER

BIRD FRIENDLY ACID-ETCHED GLASS

IMPORTANT NOTE

This document has precedence over information published in other
Walker print or digital material

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BIRD FRIENDLY ACID-ETCHED GLASS

GUIDELINES FOR PRODUCT SELECTION AND ORDERING

PRODUCT SELECTION CRITERIA

Walker Textures[®] full surface and **AviProtek**[®] patterned acid-etched glass products provide bird collision deterrence properties in exterior glazing applications.

Product selection should be based on design intent and type of application in conjunction with the performance data outlined below.

The **Walker Textures**[®] bird friendly program offers 3 different options:

- **AviProtek**[®]: Acid-etched markers on the outside surface
- **AviProtek**[®] E: Acid-etched markers on the outside surface with **Vitro Glass** solar control Low-E coating on position 2
- **AviProtek**[®] T: Transparent UV markers on the outside surface 1 of the glass

PRODUCT AVAILABILITY

(Pos. 1)	Substrate	3mm, 4mm, 6mm (No Coating on Pos. 2)	3.3mm, 6mm (No Coating on Pos. 2)	Solarban [®] 60 VTII (Pos. 2)	Solarban [®] 70 VT (Pos. 2)
AviProtek [®] Acid-etched Patterns 211, 213, 214, 215, 216, 217, 219, 220, 221	Clear Glass	X			
	Starphire Ultra-Clear [™] Glass	X			
AviProtek [®] E Acid-etched patterns 211, 213, 214, 215, 216, 217, 219, 220, 221	Clear Glass			X	X
	Starphire Ultra-Clear [™] Glass			X	
	Solargray Glass			X	X
	Solarbronze Glass			X	X
AviProtek [®] T Transparent UV Markers (patterns 701, 713, 714, 717)	Clear Glass		X		
	Pilkington Optiwhite [™]		X		

March 2020

AviProtek[®]

Available in standard dimension of 96" x 130". Other thicknesses available on demand, subject to minimum quantity
Sizes 72" x 130" and 84" x 130" available on demand

AviProtek[®] E

Solarban[®] glass products are only available to members of the Vitro Certified[™] Network.
AviProtek[®] E products come with a protective film (TPF) on the coated side
Solarban[®] z50, 67, 72 and 90 also available on demand
Acuity[™] low-iron glass also available on demand
Minimum quantity: 1 pack. Standard dimension of 96" x 130". Exact quantity available.
Other thicknesses available on demand, subject to minimum quantity

AviProtek[®] T

Above available in standard dimension of 96" x 130" and full pack quantity
Pattern 713 is also available in less than full pack quantity
10 mm clear glass also available in standard dimension of 96" x 130" and minimum quantity of 2 truckloads

Custom patterns meeting bird friendly standards are available on demand (except AviProtek[®] T)

Walker Textures[®] product availability is subject to change without notice

Walker Glass Company Ltd.

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ORDERING GUIDELINES

All orders should include the following product information:

- **AviProtek®** pattern number, if applicable
- Low-E coating number of Vitro Glass Solarban® glass product, if applicable
- Glass substrate (clear, Starphire Ultra-Clear™, Solargray, & Solarbronze)
- Glass thickness
- Stock sheet size

* Tempering of low-iron glass is highly recommended to correct slight color variances caused by the **AviProtek®** manufacturing processes. Walker is not responsible for said color variances if the low-iron glass is not tempered.

SAMPLES

Samples can be ordered as follows:

- 12" x 12" monolithic samples in selected substrates and thicknesses
- 12" x 12" double glazed samples in selected substrates
- Mock-up for qualified projects

AviProtek® E Samples

- **Clear and low-iron glass:** 12" x 12" insulated glass unit samples are available on demand for clear and Starphire Ultra-Clear™ glass.
- **Tinted glass:** Please note for 12" x 12" insulated glass unit samples using Solargray or Solarbronze, they will need to be ordered by specifying the coating and a 6mm Starphire Ultra-Clear™ glass with the desired bird friendly pattern. In order to obtain the visual, the Starphire Ultra-Clear™ glass with the AviProtek® pattern will need to be put on top of the tinted glass. No exception to this rule will be permitted.

PATTERN DIRECTION ON STOCK SHEET 96" X 130"

- All directional patterns are available along the 96" or the 130" side

CUSTOM PATTERNS

Custom patterns meeting bird friendly standards are also available on demand (except **AviProtek® T**).

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LEED POINTS

The US Green Building Council's Leadership in Energy and Environmental Design (LEED) has added Credit 55: Bird Collision Deterrence, to their Pilot Credit Library in October 2011.

Walker Textures® AviProtek® with or without Solarban® glass products can contribute to achieving credit under LEED v4 (and earlier versions) in the categories of **Energy and Atmosphere (EA)**, **Materials and Resources (MR)**, **Indoor Environmental Quality (IEQ)**, **Innovation in Design (IN)** and **Bird Collision Deterrence**.

To learn more about the LEED Pilot Credit 55 on Bird Collision Deterrence, please visit: <http://www.usgbc.org/credits/core-shell-existing-buildings-healthcare-new-construction-retail-nc-schools/v2009/pc55>.

For more information on green design and LEED please visit: <http://www.usgbc.org/>

For more information please contact your sales representative or our customer service department

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PRODUCT SPECIFICATIONS

SCOPE

This specification covers the requirements for float glass which has been etched on surface 1 and supplied as stock sheets.

ACID-ETCHED GLASS SURFACE

The proprietary **Walker Textures®** process uses a controlled solution of hydrofluoric acid to uniformly etch the surface of the glass. Rigorous process control ensures a repeatable uniformity in appearance.

PHYSICAL PROPERTIES

Walker Textures® AviProtek® glass products are made from selected **float** glass which conforms to the following standards:

USA **ASTM C 1036-16 Standard Specification for Flat Glass**
Quality: Q3 - Stock Sheet

CANADA **CAN/CGSB-12.3-M91 National Standard of Canada – Flat, Clear Float Glass**
Quality: Glazing

For dimensional tolerances (other than thickness) and edge quality requirements, refer to the specification(s) cited above.

For blemish limits for single-sided* etched glass, please refer to specifications cited above.

Float glass is normally etched on the “atmosphere” side of the sheet. **AviProtek®** with **Solarban®** glass is etched on the tin side presenting a risk of certain minor defects being present in the etched surface. For more information, please contact customer service.

AVIPROTEK® E MSVD COATED GLASS SURFACE

For more information, please communicate with Vitro Glass’ Customer Service Department.

AVIPROTEK® T GLASS SURFACE

AviProtek® T is made from glass with a pyrolytic coating from Pilkington NA, which meets the quality requirements of ASTM C1376-15 “Standard specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass”.

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PROPERTIES AND PERFORMANCE CHARACTERISTICS

Stock sheets of all **Walker Textures®** and **AviProtek®** are etched over the entire surface, except for a 3/4" (20 mm) unusable border on all four sides. Variations in opacity within a sheet will be indistinguishable to the naked eye when viewed under normal viewing conditions.

The **AviProtek®** surface (except **AviProtek® T**) does not have any significant impact on the light and performance values of an insulated unit. Therefore, values will be similar to units without patterned acid-etched glass.

For complete glass performance data of a one-inch insulating glass unit with Solarban® 60VT or 70VT solar control glass, please communicate with Vitro Glass' Customer Service Department.

The performance data of **AviProtek® T** is as follows:

TABLE A1 AVIPROTEK® T LIGHT & ENERGY PERFORMANCE VALUES											
Monolithic Unit Performance ¹		VISIBLE LIGHT			TOTAL SOLAR ENERGY			U-Factor		SC ³	SHGC ⁴
GLASS SUBSTRATE	THICKNESS mm (in)	Transmittance	Reflectance 1	Reflectance 2	Transmittance	Reflectance 1	UV Transmittance	US Summer	US Winter		
Clear	6 mm (1/4")	82%	15%	15%	75%	12%	44%	0.93	1.02	0.90	0.79
Pilkington Optiwhite™	6 mm (1/4")	85%	15%	15%	85%	12%	57%	0.92	1.02	0.99	0.92

Notes

- Figures may vary due to manufacturing tolerances. All tabulated data is based on NFRC methodology using the LBNL's Window 5.2 program.
- Values are for indication purposes only and are subject to variation according to conditions of measurement, manufacture and/or application.
- Shading coefficient is the ratio of the total amount of solar energy that passes through a glass relative to 1/8-in. (3.0 mm) thick clear glass under the same design conditions. It includes both solar energy transmitted directly plus any absorbed solar energy re-radiated and converted. Lower shading coefficient values indicate better performance in reducing summer heat gain. Shading coefficients at outdoor air temperature of 89° F (32° C), outdoor air velocity of 7.5 mph (3.4 m/s), indoor air temperature of 75° F (24° C), indoor air velocity of 0 mph (0 m/s) and solar intensity of 248 BTU /hour/square foot (783 w/m2).
- Solar Heat Gain Coefficient (SHGC) represents the solar heat gain through the glass relative to the incident solar radiation. It is equal to 86% of the shading coefficient.

November 2018

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TABLE A2 AVIPROTEK® BIRD DETERRENCE PERFORMANCE		
Test Method	Product	Threat Factor (*)
Tunnel Test - American Bird Conservancy	AviProtek® Pattern 211 Position 1 - Monolithic	23
Tunnel Test - American Bird Conservancy	AviProtek® Pattern 213 Position 1 - Monolithic	29.8
Tunnel Test - American Bird Conservancy	AviProtek® Pattern 214 Position 1 - Monolithic	30
Field Experiment - Dr. Daniel Klem, Acopian Center for Ornithology, Muhlenberg College, PA	AviProtek® Pattern 213 Position 1 - Double-glazed unit	5
Field Experiment - Dr. Daniel Klem, Acopian Center for Ornithology, Muhlenberg College, PA	AviProtek® T Pattern 713 Position 1 - Double-glazed unit	31
(*) % of times birds will not avoid collision		May2017

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WARRANTY AND POLICY STATEMENTS

AVIPROTEK®

For warranty and policy statements on acid-etched glass, please go to:
<https://walkerglass.com/pdf-page-warranty/>

AVIPROTEK® E

The MSVD Low-E coated flat glass warranty is extended by Walker Glass Co. Ltd. and is similar to the warranty extended by Vitro Glass. For more information, please communicate with Vitro Glass' Customer Service Department.

AVIPROTEK® T

For warranty and policy statements, please go to the following page.

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LIMITED WARRANTY FOR AVIPROTEK® T

Walker Glass Co. Ltd. hereby warrants that, with proper handling and maintenance, the applied coating will not peel under normal conditions for a period of 10 years following the date of purchase. Walker further warrants that, with proper handling and maintenance, the bird collision deterrent properties of the coating shall not diminish under normal conditions for a period of 10 years following the date of purchase.

In the event of any claim under this warranty, Walker must be notified in writing at the address indicated on the original invoice. Walker reserves the right to inspect any **AVIPROTEK® T** glass alleged to be defective in the location and under the conditions where the defect was first detected. Liability under this Warranty is limited, at Walker's exclusive discretion, to either:

- Walker supplying without charge and F.O.B. Walker's plant, a sufficient quantity of sheets of the size and substrate originally supplied by Walker as would be required to replace the **AVIPROTEK® T** glass proven to be defective.

OR

- Walker refunding an amount equal to the amount originally charged per square foot for the **AVIPROTEK® T** glass times the quantity of square feet of **AVIPROTEK® T** glass proven to be defective. Walker's liability shall be limited solely to its responsibilities under this Warranty. In no event shall Walker be liable to any person or entity for indirect, special, incidental or consequential damages or charges for any reason, including but not limited to related labour and/or material costs.

Conditions

This Warranty is void under any of the following conditions:

- The **AVIPROTEK® T** glass is broken or fractured.
- The surface of the **AVIPROTEK® T** glass has been damaged.
- The **AVIPROTEK® T** glass is handled, stored, fabricated, or installed contrary to Walker's written guidelines.

EXCEPT FOR THE EXPRESS WARRANTY DESCRIBED ABOVE, WALKER NEITHER EXPRESSES NOR IMPLIES ANY OTHER WARRANTIES OF ANY KIND AND NO WARRANTY SHALL BE IMPLIED BY OPERATION OR LAW OR OTHERWISE.

No variation or change from this warranty will be binding upon Walker unless made in writing specifically referring to this Warranty and signed by an officer of Walker.

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GUIDELINES FOR HANDLING, FABRICATION, AND CLEANING

AVIPROTEK®

For guidelines specific to the acid-etched surface, please go to:

<https://walkerglass.com/pdf-page-guidelines-for-handling/>

AVIPROTEK® E

For guidelines specific to the MSVD Low-E coated surface, please communicate with Vitro Glass' Customer Service Department.

AVIPROTEK® T

IDENTIFICATION OF THE COATED SURFACE

AviProtek® T Glass has a thin, clear, permanent, pyrolytic coating on the atmosphere side of the glass. The fine scale roughness of the coating can be detected by the added friction felt when it is rubbed with finger tips or finger nails.

Note: the coating emittance is the same as non-coated glass and so standard low-e detectors cannot be used to identify the coated surface.

A UV lamp can be used to detect the tin side (tin side will emit a white soft glow under concentrated UV, the pyrolytic coating is applied on the other surface, the atmosphere side)

HANDLING

Care must be taken to avoid excessive contact with the coated surface. If handling requires contact with the coated surface, clean gloves must be used at each workstation. Care should be taken to avoid contaminating the coated surface with cutting oils or finger prints after it has been properly cleaned.

AviProtek® T should be cut, washed, heat treated, and generally processed with the coated surface up to avoid unnecessary contact with other materials.

AviProtek® T Glass is shipped in either standard cases or stoces. Like other Walker Glass products, the glass surfaces are protected with an interleaving material that inhibits moisture staining and abrasion between the individual lights.

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GUIDELINES FOR HANDLING, FABRICATION, AND CLEANING (Cont.)

AviProtek® T Glass should never be removed from cases by “end opening” the case since sliding glass surfaces past each other may damage the reflective coating or the glass surface.

AviProtek® T Glass can be handled with suction cups, though it is preferable to apply suction cups to the tin side where possible. The cups must be clean and dry to prevent damage to or marking of the coating. The cups should not be slid across the coated surface.

CUTTING

AviProtek® T Glass should be cut with the coated side up to eliminate coating damage that could result from glass particles on the cutting table, especially when using free-fall cutting techniques.

Cutting oils should be light, evaporating lubricants. Keep the quantity of cutting oil to an absolute minimum to reduce contamination of gloves and to allow easier washing of the coated surface.

WASHING

As with any coated glass product, care should be taken while washing the glass to prevent damage to the coating.

AviProtek® T Glass should be washed, with the coating side up, in a rotating drum brush flat glass washing and drying machine.

Do not allow the glass to remain stationary under the rotating brushes.

FABRICATION

AviProtek® T can be glazed monolithically or incorporated into an insulating glass unit or in a laminate assembly. In all cases, the coating must be on the outer #1 surface, to preserve the bird deterrence properties.

AviProtek® T Glass can be heat-strengthened, fully tempered or bent, after it is cut to size. The coating should be facing up when heat-treating in a horizontal furnace to minimize the chance of coating damage.

When **AviProtek® T** Glass is used in insulating glass units; no edge deletion of the reflective coating is required. Results to date indicate that the glass side of **AviProtek® T** is compatible with major insulating glass sealants.

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GUIDELINES FOR HANDLING, FABRICATION, AND CLEANING (Cont.)

PACKING

AviProtek® T Glass should be separated from contact with adjacent glass by using paper interleaving or small cork tabs around the glass perimeter.

CLEANING AND MAINTENANCE

Refer to **Walker Textures®** post installation cleaning guidelines at:
<https://walkerglass.com/pdf-page-guidelines-for-handling/>

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