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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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® Architectural Glass solar control Low-E coating on position 2
- ***AviProtek®* T** : Transparent UV markers on the outside surface 1 of the glass

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PRODUCT AVAILABILITY

(Pos. 1)	Glass Substrate**	Thickness**	Coating on Pos. 2**
AviProtek® Patterns 211, 214, 215, 216, 217, 221, 222, 226, 227	Clear | Starphire Ultra-Clear® | Acuity® | Solargray® | Solarbronze®	3mm, 4mm, 5mm, 6mm, 8mm, 10mm, 12mm	N/A
AviProtek® E Patterns 211, 214, 215, 216, 217, 221, 222, 226, 227	Clear | Starphire Ultra-Clear® | Acuity® | Solargray® | Solarbronze®	6mm	Solarban® 60 VT | Solarban® R67 VT | Solarban® 70 VT | Solarban® 72 VT | Solarban® 90 VT
AviProtek® T Transparent UV Markers Patterns 701, 714, 717	Clear	3.2mm, 6mm	N/A

January 2024

Minimum quantity: 1 pack. Exact quantity available for more than 1 pack orders. Subject to terms and conditions
Available in standard dimension of 96" x 130"
** Other thicknesses, glass substrates and coatings are available on demand. Subject toterms and conditions

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
AviProtek® E products with a Solarban® coating must be fabricated no later than 90 days following delivery date.

AviProtek® T
10 mm clear glass is also available in standard dimension of 96" x 130" with a 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*

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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® Architectural Glass Solarban® glass product, if applicable
- Glass substrate (clear, Starphire Ultra-Clear®*, Acuity®*, 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:

- ***Walker Textures® AviProtek®*** sample kit
- 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

- 12” x 12’’ monolithic or insulated glass unit samples are available on demand for a selection of glass substrates. Please contact customer service to confirm availability.

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

LEED credits that can be obtained with ***Walker Textures®*** ***AviProtek®*** are as follows:

LEED® v4.1 requirements for Building Design + Construction (BD+C)
LEED® v4.1 requirements for Interior Design + Construction (ID+C)

Energy and Atmosphere

- Project may use a variety of strategies, including building envelope, of which the glazing is part.
- Available for AviProtek® E low-e coated glass

Materials and Resources
Building Product Disclosure and Optimization

- Environmental Product Declaration (under our EPD)
- Material Ingredients (under our HPD®)

Indoor Environmental Quality

- Low-Emitting Materials
- Thermal Comfort (available for AviProtek® E low-e coated glass)
- Daylight

Innovation

- Bird Collision Deterrence

The following documents covering ***Walker Textures®*** ***AviProtek®*** products are available on demand:

- EPD - Environmental Product Declaration
- HPD® - Health Product Declaration®

To request a copy of the above-mentioned documents or for more information please contact your sales representative or our customer service department.

Environmental Data Sheet

The Environmental data sheet is a shortened version of the EPD and is available here:
https://www.walkerglass.com/resources/sustainable-materials/

PRODUCT SPECIFICATIONS

SCOPE

This specification covers the requirements for float glass which has been etched on surface 1 or 2 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 1036-21 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

Specifications of ***Walker Textures® AviProtek®*** glass products are substantially aligned with ASTM C 1036-21 and CAN/CGSB-12.3-M91. However, there are variations that are specific to the unique and proprietary ***Walker Textures® AviProtek®*** process. 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 C1376-21a "Standard specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass".

PROPERTIES AND PERFORMANCE CHARACTERISTICS

Stock sheets of all ***Walker Textures®*** *and* ***AviProtek®*** are etched over the entire surface, except for a 1" unusable border on all four sides of our acid-etched products with the exception of the Velour finish with a 3/4" unusable border. Variances 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

Notes

1 Figures may vary due to manufacturing tolerances. All tabulated data is based on NFRC methodology using the LBNL's Window 5,2 program.

2 Values are for indication purposes only and are subject to variation according to conditions of measurement, manufacture and/or application.

3 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).

4 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.

September 2021

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PROPERTIES AND PERFORMANCE CHARACTERISTICS (Cont.)

TABLE A2
AVIPROTEK® PATTERN SPECIFICATIONS AND BIRD DETERRENCE DATA

Aviprotek solution	Description	Type	Density	Compliance with National Glass Association's prescriptive guide	Compliance with Canadian prescriptive standard CSA A460:19	Threat factor from ABC's tunnel test (transparent conditions only) (note 1)	% deterrence of collision from Professor Daniel Klem's field experiment (transparent and reflection conditions) (note 2)
Etch pattern on surface #1 on 6mm monolithic clear, low iron or tinted glass	AviProtek ® pattern 211	Linear pattern with variable spacing meeting the 2x4 rule	22.45%	YES	YES	23	95%
	AviProtek ® pattern 214	Organic pattern with variable spacing meeting the 2x4 rule	26.56%	YES	YES	21	95%
	AviProtek ® pattern 215	5mm dot, 2x2 spacing	0.97%	YES	YES	25	95%
	AviProtek ® pattern 216	6mm dot, 4x4 spacing	0.35%	NO	NO	N/A	N/A
	AviProtek ® pattern 217	5mm dot, 2x2 spacing	0.97%	YES	YES	15	95%
	AviProtek ® pattern 221	6mm dot, 2x4 spacing	0.70%	YES	NO	25	95%
	AviProtek ® pattern 222	5mm dot, 4x4 spacing	0.24%	NO	NO	N/A	N/A
	AviProtek ® pattern 226	5mm square, variable spacing up to 2x2	0.97%	YES	YES	25	95%
	AviProtek ® pattern 227	5mm square, variable spacing up to 2x4	0.70%	YES	NO	25	95%
Full surface etch on surface #1 on 6mm monolithic clear, low iron or tinted glass	Opaque finish	Full surface	100%	YES	YES	25	N/A
	Velour finish	Full surface	100%	YES	YES	25	N/A
	Satin finish	Full surface	100%	YES	YES	25	N/A
UV pattern on surface #1 on 6mm clear glass in double-glazed unit	AviProtek ® T pattern 701	Organic, variable spacing meeting the 2x4 rule	Not Applicable	YES	YES	N/A	69%
	AviProtek ® T pattern 714	Organic, variable spacing meeting the 2x4 rule	Not Applicable	YES	YES	N/A	69%
	AviProtek ® T pattern 717	5mm dot, 2x2 spacing	Not Applicable	YES	YES	N/A	69%

January 2024

Note 1: The number is expressed as the percentage of times a bird has hit the test material (see-through conditions tested only)
Note 2: The number is expressed as the percentage of times a bird has avoided the test material, based on comparison to an unaltered control

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 Architectural Glass' Customer Service Department.

AVIPROTEK® T

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

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® E products with a Solarban® coating must be fabricated no later than 90 days following delivery date.

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.

Continues…

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.

Continues…

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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