

# ORNILUX Bird Protection Glass



## The Solution For Bird Protection Is Clear

Researchers estimate that up to one billion birds are killed each year in North America due to collisions with glass on human-built structures, making bird collisions one of the most significant causes of avian mortality globally.

With the understanding that birds are able to see light in the ultraviolet spectrum, bird-friendly glass innovator, ARNOLD GLAS developed ORNILUX Bird Protection Glass. The glass has a patterned, UV reflective coating making it visible to birds while remaining virtually transparent to the human eye.

### ORNILUX: The Transparent Solution

With over 15 years of research and development behind it, ORNILUX is a proven bird-friendly glazing treatment.

ORNILUX, the leading multi-functional, clear glass solution to bird collisions is available as laminated glass or insulated units paired with Arnold Glas low-E coatings, thus providing energy efficiency and bird collision protection.



What Birds See



What We See



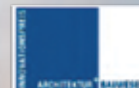
*Vassar College Integrated Science Commons, Poughkeepsie, NY  
Ennead Architects*



*Hellabrunn Zoo, Munich, Germany*



See Product Overview



## Product Overview

American Bird Conservancy has tested ORNILUX in a tunnel test and found that it satisfied ABC's criterion for bird-friendly glass, where 70% of birds avoided the product and flew towards the control pane. A check mark ✓ indicates an "Effective" rating by American Bird Conservancy. For more information about ABC's rating and testing program, visit [BirdSmartGlass.org](http://BirdSmartGlass.org)

*Note: According to ABC's Bird Smart Glass program, "window products rated "Effective" and "Highly Effective" have shown in controlled studies to significantly reduce, but not altogether eliminate, bird collisions, and results will vary depending on local bird populations, landscape conditions, and building design."*

Product	Transmission			Reflectance			Absorbance	U-Value (Argon)		Relative Heat Gain BTU/(hft <sup>2</sup> )	Shading Coefficient	Solar Heat Gain Coefficient	Light to Solar Gain (LSG)	Tunnel Score	Threat Factor
	Visible Light %	Ultra-violet %	Solar Energy %	Visible Light Out %	Visible Light In %	Solar Energy Out %	Solar Energy %	Winter Btu/(hft <sup>2</sup> F)	Summer Btu/(hft <sup>2</sup> F)						
<b>Insulating Glass with low-E</b>															
Double Glazing (6mm:/10mm/:8.76mm laminated - Mikado on surface 2 / uno on surface 3)															
uno N10 ✓	66	0	35	24	25	39	25	0.24	0.24	106	0.51	0.44	1.49	74%	26
Double Glazing (4mm:/12mm/:8.76mm laminated - Mikado on surface 2 / advance 34 on surface 3)															
Adv. N34 ✓	77	0	48	15	14	30	21	0.24	0.23	137	0.67	0.58	1.33	77%	23
<b>Insulating Glass with solar control</b>															
Double Glazing (6mm:/10mm/:8.76mm laminated - A70 on surface 2 / Mikado on surface 3)															
A70 ✓	66	0	28	16	16	37	35	0.24	0.24	81	0.38	0.33	1.97	80%	20
Double Glazing (6mm:/16mm/:8.76mm laminated - A60 on surface 2 / Mikado on surface 3)															
A60	58	0	25	16	15	36	39	0.24	0.17	71	0.34	0.30	1.95	63% Europe	N/A
Double Glazing (10.76mm laminated:/10mm/4mm - Mikado on surface 2 / A50 on surface 4)															
A50 ✓	51	0	21	19	12	26	53	0.24	0.24	66	0.31	0.27	1.88	75%	25
Double Glazing (10.76mm laminated:/10mm/4mm - Mikado on surface 2 / A40 on surface 4)															
A40 ✓	41	0	17	23	12	25	59	0.24	0.24	57	0.27	0.23	1.79	75%	25
<b>Triple Insulating Glass</b>															
Triple Insulating Glass (12.76mm laminated:/14mm/4mm/14mm/4mm - ORNILUX Mikado on surface 2 / A50 on surface 4 / advance 34 on surface 7)															
A50 Triple	46	0	18	20	15	24	58	0.12	0.11	52	0.25	0.22	2.07	64% Europe	N/A
<b>Triple Laminated Glass</b>															
Triple Laminated Glass 36 mm (12mm:/0.76 PVB/12mm/0.76 mm PVB:/12mm - Mikado on surfaces 2 and 5)															
mono 36mm	76	0	45	10	10	7	48	0.84	0.77	479	0.71	0.61	1.24	68% Europe	N/A
Triple Laminated Glass 12 mm (4mm:/0.76 PVB/4mm/0.76 mm PVB:/4mm - Mikado on surfaces 2 and 5)															
mono 12mm	84	0	65	11	11	8	27	0.95	0.86	569	0.84	0.73	1.14	64%	N/A

ORNILUX units can be heat-strengthened or tempered, and are available in TOPVIEW quality standards that eliminate unsightly anisotropy (double refraction phenomenon).

Arnold Glas A-line solar control coatings (A40–A70) featuring different light transmission and performance can be paired together to design a color-matched façade. Arnold Glas offers clear, low-E insulated glass types to match non-ORNILUX areas of glazing. For more information visit [arnold-glas.com](http://arnold-glas.com)

Other glass and spacer thicknesses can be produced but configurations that deviate relative to glass thickness and/or spacer width may result in a deviation of the score achieved with tested ORNILUX configurations.

### Max Production Dimensions

ORNILUX on tempered glass: 2,700 x 5,000mm / 106 in. x 197 in. / 8.9 ft. x 16.4 ft.  
ORNILUX on laminated tempered: 2,600 x 5,000mm / 102 in. x 197 in. / 8.5 ft. x 16.4 ft.

*Note: Optimum max size for transport: 2,450 x 5,000mm / 96 in. x 197 in. / 8.0 ft x 16.4 ft. Max transport size TBC on demand.*

Min. OA IGU thickness: 23mm (N34 only); 25mm (all others)  
Laminated available in min. 12mm – max. 36mm OA