



# ORNILUX<sup>®</sup> Bird Protection Glass

Researchers estimate that hundreds of millions of 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. ORNILUX provides bird protection without compromising thermal performance or light transmission. “Mikado” refers to the unique pattern design.

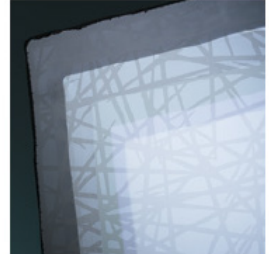
## Features & Benefits:

- Provides bird collision mitigation with a high level of transparency
- Expands the definition of an environmental glass type to include wildlife conservation
- Tested and approved “Effective” rating from American Bird Conservancy
- May be used as a triple-laminated glass, or as part of an insulated glass unit
- Can be heat-strengthened or tempered
- Available from GGI in cases only

What we see



What the birds see



## How it Works:

Birds are able to see light in the ultraviolet spectrum. ORNILUX Mikado is produced using a patterned, UV-reflective coating that makes it visible to birds a high transparency to the human eye.

The ORNILUX Mikado coating can be combined with an Arnold Glas low-emissivity coating or solar control coating for use in an insulating glass configuration for energy-efficiency.

# Product Data

Product Bird Protection Glass	Transmission			Reflectance			Absorbance	U-Value				Relative Heat Gain	Shading Coefficient	Solar Heat Gain Coefficient	Light to Solar Gain (LSG)	Tunnel Score (% to control)	Threat factor acc. LEED Pilot Credit
	Visible Light	Ultra-violet	Solar Energy	Visible Light	Visible Light	Solar Energy	Solar Energy	Winter		Summer							
	%	%	%	Out %	In %	Out %	%	Air	Argon	Air	Argon	BTU/(hft <sup>2</sup> F)	BTU/(hft <sup>2</sup> F)				
Double Glazing (6 mm/10 mm/8.76 mm laminated – Mikado on surface 2/uno on surface 3)																	
ORNILUX Mikado uno //	66	0	35	24	25	39	25	0.30	0.24	0.30	0.24	106	0.51	0.44	1.49	74	26
Double Glazing (4 mm/12 mm/8.76 mm laminated – Mikado on surface 2/advance 34 on surface 3)																	
ORNILUX Mikado advance 34 //	77	0	48	15	14	30	21	0.29	0.24	0.28	0.23	137	0.67	0.58	1.33	77	23
Double Glazing (6 mm/10 mm/8.76 mm laminated – A70 on surface 2/Mikado on surface 3)																	
ORNILUX Mikado A70 //	66	0	28	16	16	37	35	0.30	0.24	0.30	0.24	81	0.38	0.33	1.97	64	80
Double Glazing (6 mm/16 mm/8.76 mm laminated – A60 on surface 2/Mikado on surface 3)																	
ORNILUX Mikado A60 //	58	0	25	16	15	36	39	0.29	0.24	0.22	0.17	71	0.34	0.30	1.95	63	N/A
Double Glazing (10.76 mm laminated/10 mm/4 mm – Mikado on surface 2/A50 on surface 4)																	
ORNILUX Mikado A50 //	51	0	21	19	12	26	53	0.30	0.24	0.30	0.24	66	0.31	0.27	1.88	75	25
Double Glazing (10.76 mm laminated/10 mm/4 mm – Mikado on surface 2/A40 on surface 4)																	
ORNILUX Mikado A40 //	41	0	17	23	12	25	59	0.30	0.24	0.30	0.24	57	0.27	0.23	1.79	75	25
Triple Insulating Glass (12.76 mm laminated/14 mm/4 mm/14 mm/4 mm – ORNILUX mikado on surface 2 /A50 on surface 4 / N34)																	
ORNILUX Mikado A50 ///	46	0	18	20	15	24	58	0.15	0.12	0.15	0.11	52	0.25	0.22	2.07	64	N/A
Triple Insulating Glass (6 mm/14 mm/4 mm/14 mm/8.76 mm – A50 on surface 2 / ORNILUX mikado on surface 3 / N34 on surface 4)																	
ORNILUX Mikado A50 ///	45	0	18	20	17	35	47	0.15	0.12	0.15	0.11	53	0.26	0.22	2.01	63	N/A
Triple Insulating Glass (6mm/14 mm/4 mm/14 mm/8.76 mm – ORNILUX mikado on surface 2 / N34 on surface 2 and 5)																	
ORNILUX Mikado advance 34 ///	69	0	37	18	17	37	31	0.15	0.12	0.15	0.12	112	0.55	0.48	1.44	64	N/A
Triple Laminated Glass 36 mm (12 mm/0.76 PVB/12 mm/0.76 mm PVB/12 mm – Mikado on surfaces 2 and 5)																	
ORNILUX Mikado Mono	76	0	45	10	10	7	48	0.84		0.77		479	0.71	0.61	1.24	68	N/A
Triple Laminated Glass 12 mm (4 mm/0.76 PVB/4 mm/0.76 mm PVB/4 mm – Mikado on surfaces 2 and 5)																	
ORNILUX Mikado Mono	84	0	65	11	11	8	27	0.95		0.86		569	0.84	0.73	1.14	64	N/A

Technical values for ORNILUX Mikado Mono are just approximately. Please contact us for more specific information.

## Availability

Sheets are available in sizes of 88 1/2" x 126" (2250mm x 3210mm) and in thicknesses of 5/32", 1/4", 5/16", 3/8", and 1/2". Low-iron glass is available on request. Contact your GGI sales representative for lead time.

## Product Guidelines

### FABRICATION, STORAGE & HANDLING AND LIMITED WARRANTY

ORNILUX is available in cased goods to approved laminating and insulating glass fabricators, as it is designed for use as a triple-laminated glass solution. It may also be used as part of an insulated glass unit.

ORNILUX can only be combined with a low-e coated glass as manufactured by Arnold Glas that is tested and approved by the American Bird Conservancy. These user-friendly Arnold Glas low-e coated glass products are also available from GGI to fabricators approved to process sputter-coatings.

Contact GGI to discuss the criteria required if you are interested in pairing ORNILUX with a low-e glass other than the products listed above.

Technical documents are available at [www.generalglass.com/products/bird-friendly-glass](http://www.generalglass.com/products/bird-friendly-glass). These documents should be reviewed closely to ensure quality results in processing and installing these products.

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