

4BIRD[®] Etch

Effective bird protection in glass architecture with solar control coating associated to etched pattern



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According to the American Bird Conservancy (ABC) „each year up to 1 billion birds die after hitting glass surfaces in the United States.“¹ The reasons why birds hit windows and glass facades are diverse - not to say that a sparrow has a different perception of glass than a pigeon. In general, there are two, seemingly contradicting reasons why birds may collide with glass but that are unique to the material in itself: reflectivity and transparency.

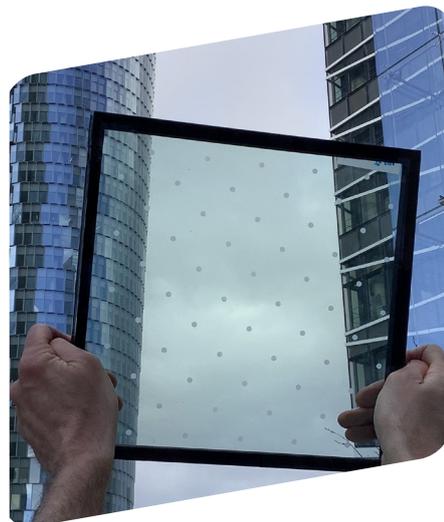
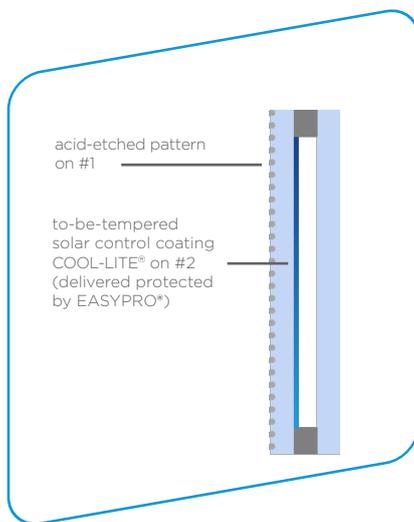
All glasses, of course, reflect the (natural) surroundings of their buildings - from the sky with its clouds down to bushes and trees in nearby streets or parks - which obviously presents to birds the continuity of their local habitat with „safe routes, shelter, and possible food ahead“² Likewise, the same perception may occur to birds if for them the glass seems to be transparent - especially corner glazings, skywalks or glass walls are known threats to birds.

With the **4BIRD® product family, Saint-Gobain Glass** offers a range of solar control glass with a special focus on an effective bird protection, offering both sustainable solutions for the preservation of the biodiversity and a wiser energy consumption of building, while keeping a homogeneous and neutral external aesthetic.

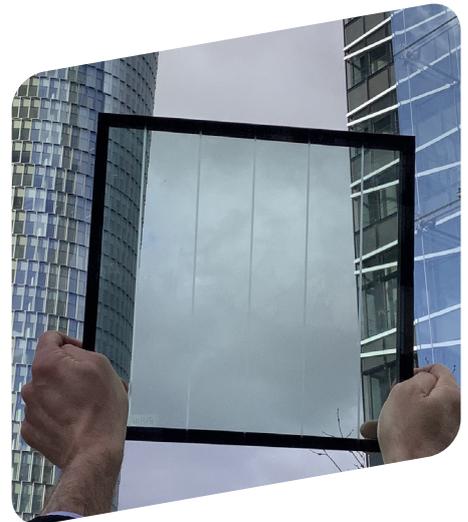
¹ abcbirds.org/glass-collisions/why-birds-hit-glass
² sfplanning.org/standards-bird-safe-buildings



combines Saint-Gobain Glass solar control coatings of the COOL-LITE® family with acid etched pattern on face #1.



4BIRD®Etch acid-etched dots pattern on #1
 COOL-LITE® SKN 183 II on #2



4BIRD®Etch acid-etched lines pattern on #1
 COOL-LITE® XTREME 70/33 II on #2

4BIRD® Etch is a series of **specifically acid-etched pattern on #1** by our partner **SEVASA S.A.** together with selected **to-be-tempered COOL-LITE® coatings** protected **with EASYPRO® on #2** by **Saint-Gobain Glass**. The products comply with all currently known local regulations and national guidelines. The designs meet the recognized **2x2" and 2x4" rules** and tighter mandatory or voluntary regulations like **LEED Pilot Credit #55: Bird Collision Deterrence**.

AESTHETICS

The low, external reflection as well as the colour-neutral external appearance of the COOL-LITE® products associated with subtle etched pattern create an excellent combination of function and aesthetics, thus offering a smooth and homogeneous façade design and taking care of both: bird protection and comfort of the user.

COMFORT

Offering all the benefits of COOL-LITE® solar control glass, with extreme transparency and neutrality to get as much as natural daylight as possible all year round with all its benefits for both, your power consumption and your health. And with highly efficient sun protection at all time and excellent insulation to reduce the energy consumption and associated cost.

ALL IN ONE SOLUTION

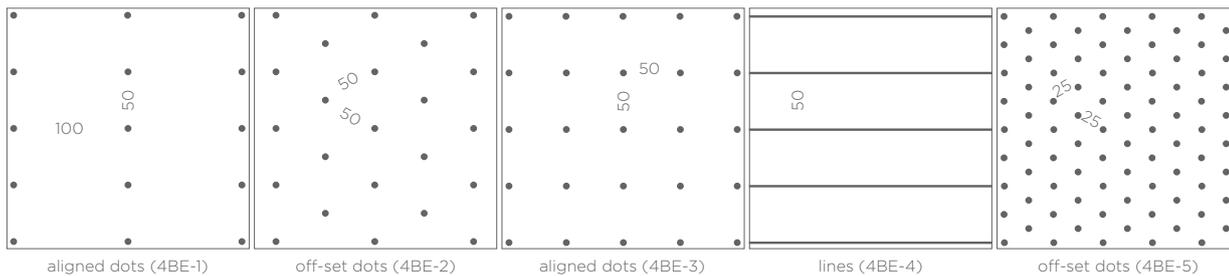
Thanks to EASYPRO® unique protective layer, both etched pattern and COOL-LITE® solar control coatings are on one single glass, thus avoiding complex composition and saving cost and weight. The processing of 4BIRD® Etch with to-be-tempered COOL-LITE® protected with EASYPRO® is exactly the same as for standard COOL-LITE® II.

DESIGNS

- off-set dots Ø6 mm, 50x50 mm (2x2"), 25x25 mm
- aligned dots Ø6 mm 50x50 mm (2x2"), 50x100 mm (2x4")
- lines 6 mm thick, 50 mm

AVAILABILITIES

thickness: 6-12 mm (1/4"-7/16")
 standard size: 2,250 x 3,210 mm (88" x 126 1/3")
 special size up to 2,400 x 3,210 mm (94 1/2 x 126 1/3")
 substrate: PLANICLEAR®, DIAMANT®
 coating: recommended with COOL-LITE® XTREME 70/33 II, XTREME 61/29 II, SKN 175 II SKN 183 II, SKN 176 II



Customized designs available on request

These designs are also available on uncoated glass (PLANICLEAR® or DIAMANT®) as **4BIRD® Kare**

4BIRD® Etch in double glazing unit (DGU)

to-be-tempered solar control coating delivered on standard protected by EASYPRO®

Ug-Value*

Light Transmission (TL) **

Solar Factor (g-value)**

Selectivity (LT/g)

Outside reflection (LRe)**

Inside reflection (LRI) **

[W/m2K]

[%]

[%]

[%]

[%]

[%]

Standard build-up DGU 6/16/4 mm with acid-etched pattern on #1 and coating on #2, 90% Argon

	Ug-Value*	Light Transmission (TL) **	Solar Factor (g-value)**	Selectivity (LT/g)	Outside reflection (LRe)**	Inside reflection (LRI) **
	[W/m2K]	[%]	[%]	[%]	[%]	[%]
4BIRD® Etch COOL-LITE XTREME 70/33 II DIAMANT*	1.0	71	33	2.15	11	13
4BIRD® Etch COOL-LITE XTREME 70/33 II	1.0	70	33	2.12	11	13
4BIRD® Etch COOL-LITE XTREME 61/29 II DIAMANT*	1.0	62	29	2.14	11	15
4BIRD® Etch COOL-LITE XTREME 61/29 II	1.0	61	29	2.10	11	15
4BIRD® Etch COOL-LITE SKN 083 II (on DIAMANT*)	1.0	76	41	1.85	12	13
4BIRD® Etch COOL-LITE SKN 183 II	0.7	75	40	1.88	12	13
4BIRD® Etch COOL-LITE SKN 075 II (on DIAMANT*)	0.7	71	36	1.97	15	16
4BIRD® Etch COOL-LITE SKN 175 II	0.7	70	35	2.00	14	15
4BIRD® Etch COOL-LITE SKN 076 II (on DIAMANT*)	1.0	71	38	1.87	13	15
4BIRD® Etch COOL-LITE SKN 176 II	0.7	70	37	1.89	13	15

*according to EN673 **according to EN410



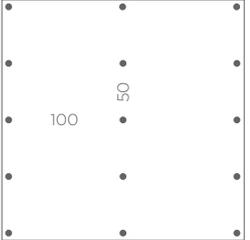
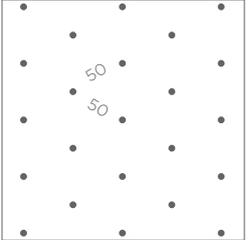
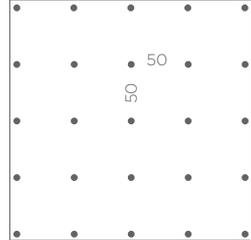
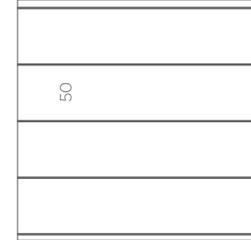
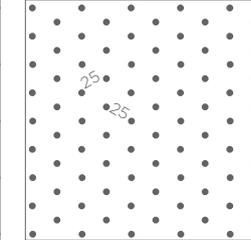
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American Bird Conservancy (ABC) has evaluated all 4BIRD® Etch configurations and found that they **satisfied ABC's criterion for bird-friendly glass**. Corresponding **Material Threat Factors (TF)** have been given.

Acid etch pattern on #1 and coating on #2 on clear or low-iron glass
Overall outdoor reflection of the assembly <15%

4BE-1	4BE-2	4BE-3	4BE-4	4BE-5
Aligned dots (2"x4")	Off-set dots (2"x2")	Aligned dots (2"x2")	Horizontal lines	Off-set dots (<2")
				
Dots Ø6 mm Pattern spacing: 50x100 mm (2x4")	Dots Ø6 mm Pattern spacing: 50x50 mm (2x2")	Dots Ø6 mm Pattern spacing: 50x50 mm (2x2")	Line thick 6 mm Pattern spacing: 50 mm (2")	Dots Ø6 mm Pattern spacing: 25x25 mm (<2")
Material Threat Factor (TF) = 25	Material Threat Factor (TF) = 20	Material Threat Factor (TF) = 20	Material Threat Factor (TF) = 20	Material Threat Factor (TF) = 25