

# Bird friendly made beautiful

Saflex™ FlySafe™ 3D  
PVB interlayer

saflex 



## Every year, billions of birds collide into buildings.

It's a global problem. Given the prevalence of glass in modern architecture, countless birds are killed as they navigate along migratory pathways and strike windows, link bridges and curtain walls. They fail to see glass, misjudge reflections or are attracted to internal lights — all leading to avoidable collisions.

To address the problem, an increasing number of cities and countries worldwide are passing legislation that requires new construction to feature bird-friendly glass. Architects, designers and builders need to act now to specify appropriate solutions. Choosing the right solution is easier than ever with Saflex™ FlySafe™ 3D PVB interlayers.

## Introducing highly effective,<sup>\*</sup> bird-friendly solutions that do not compromise on aesthetics.

To address the global challenge of birds colliding with glass in buildings, Eastman has introduced FlySafe 3D with an extended portfolio of options.

These unique PVB interlayers give architects and facade engineers the freedom to create visually stunning buildings while still protecting birds. With more options available, designers can select the best bird protection for each project.

FlySafe 3D is recognized in the industry and by ornithologists as one of the best solutions with minimal obscuring of views and long-lasting durability.

<sup>\*</sup>Flight tunnel testing at Collision Laboratories shows single-unit laminates with FlySafe 3D 9-mm diameter shiny and matte sequins are highly effective with approaches at 9%, while 6-mm sequins show effectiveness with approaches at 13%.





## Protect birds as well as your reputation.

The greater the bird traffic by your building, the greater the danger of impact for birds in flight. Choose bird-friendly Saflex interlayers to protect them, your reputation and even your bottom line.

In cooperation with Collision Laboratories in Hohenau-Ringelsdorf, Austria, Saflex FlySafe 3D has been tested using flight tunnels which demonstrated the material's effectiveness in mitigating bird collisions. In addition, the American Bird Conservancy (ABC) has given Saflex FlySafe 3D a material threat factor of less than 10 for 9-mm shiny sequins spaced not more than 90 mm in a square grid.\* The use of FlySafe 3D can contribute to LEED® innovation credit for bird collision deterrence.

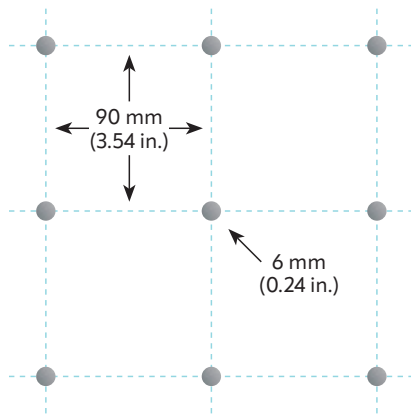
\*Material threat factor can vary for each product, depending on sequin size and laminate position. Please check specific product for more details.



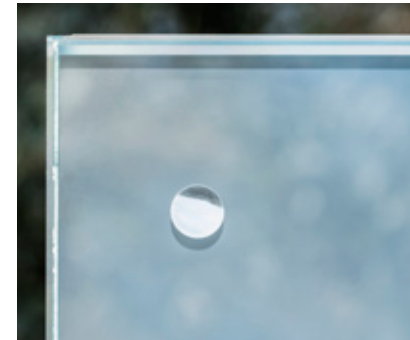
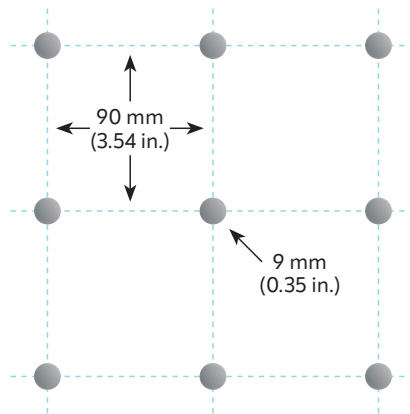
## A safer glass for birds. A beautiful glass for buildings.

Saflex FlySafe 3D uses 3D sequins that catch and reflect light to deter birds from glass. Unlike current alternatives on the market, the sequins are discreet and don't obscure views or compromise the aesthetics of your exterior glass designs. The grid pattern consists of rows and columns of sequins available in two sizes, 6 mm (0.24 in.) and 9 mm (0.35 in.) in diameter, separated on all sides by not more than 90 mm (3.5 in.). This includes two sequin options of silver matte and silver shiny. In addition, FlySafe 3D can be configured with a 9-mm shiny sequin for both the interior and exterior sides.

6-mm grid pattern



9-mm grid pattern



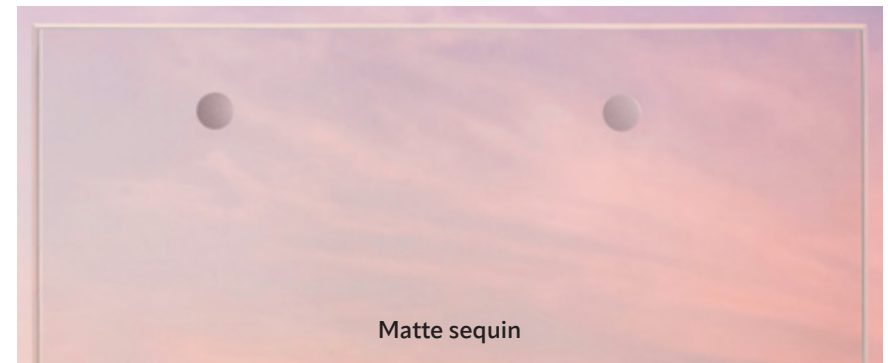
Exterior view



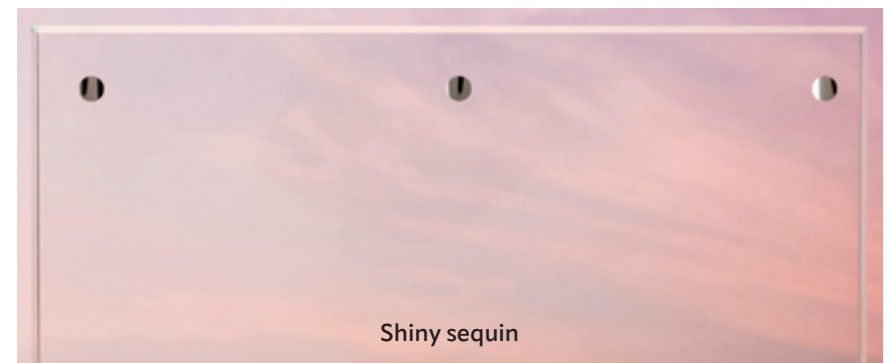
Interior view

*Black available in 6 mm and 9 mm  
Shiny sequin available in 9 mm*

## Saflex FlySafe 3D sequin options



Matte sequin



Shiny sequin

To request a sample, visit [saflex.com/flysafe](https://saflex.com/flysafe).

# Key benefits

## Highly effective

The 3D sequins in Saflex FlySafe 3D offer an effective method of avoiding avian in-flight collisions, maintaining glass as a preferred design element. FlySafe 3D with a 9-mm sequin offers the highest effectiveness rating available in Europe for deterring birds from impacting glass with less than 10 approaches during testing. This rating translates to a threat factor rating, available from the ABC, of 10 or less.

- Tested using flight tunnels at collabs with less than 13% approaches
- Effective in different glazing configurations with select coatings\*
- Contributes to LEED® innovation credit for bird collision deterrence

## Minimal visual obscuring

Unlike bird protection glass that uses screen printing, etching or UV coating solutions, FlySafe 3D uses discreet and optimally placed sequins to avert birds without compromising views.

FlySafe 3D offers two sequin sizes: 6-mm and 9-mm diameter, both with coverage below 1%.

## Design freedom

FlySafe 3D bird protection glazing is compatible with Saflex Acoustic, Structural and Storm interlayers, enabling architects and glass laminators to mitigate bird strikes without compromising on safety, security, structural integrity, aesthetics, UV screening or acoustic control.

With more options, architects can choose between a matte and shiny sequin, along with sequin sizes that fit best with the design while exceeding industry standards.

## Durable choice

Because it's an interlayer, your bird protection glass will last. The sequins are protected from the elements and cleaning tools and fluids, requiring only normal laminated glass cleaning and maintenance.

\*Ability to use FlySafe 3D as the inboard or outboard laminate of an insulating glass unit. Check with a Saflex representative for more details.

## FlySafe 3D product offering

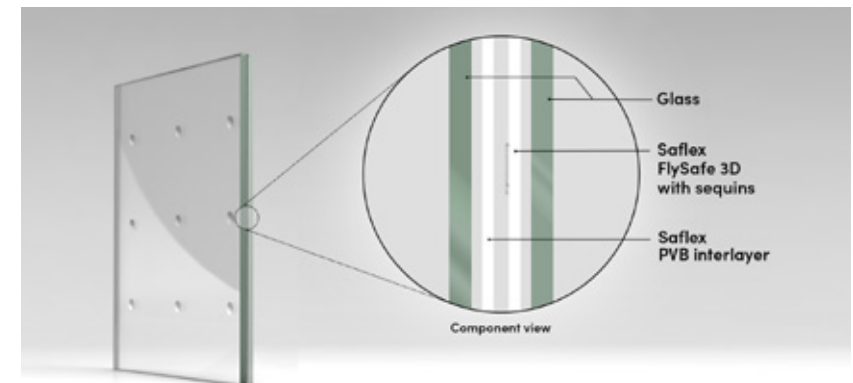
Sequin type Exterior   Interior	Grid pattern (mm)	Approaches (%)	Surface coverage (%)
Shiny silver   Black	6   90	13	< 0.5
Matte silver   Black	6   90	13	< 0.5
Shiny silver   Black	9   90	9	< 1
Matte silver   Black	9   90	9	< 1
Shiny silver   Shiny silver	9   90	6	< 1

**Note:** Flight tunnel testing completed at Collision Laboratories represents the percentage of birds that approach the test panel. The % approaches are typically translated into the threat factor.

## FlySafe 3D used in insulating glass units

Glazing detail Exterior [gap] Interior	Grid pattern (mm)	Approaches (%)	Glass coverage (%)
4 mm   FlySafe 3D (shiny silver   black)   4 mm low-e coating [16 mm] 4 mm	9   90	6	< 1
4 mm low-e coating [16 mm] 4 mm   FlySafe 3D (shiny silver   black)   4 mm	6   90	13	< 0.5

**Note:** Flight tunnel testing completed at Collision Laboratories represents the percentage of birds that approach the test panel. The % approaches are typically translated into the threat factor.



## Applications

- Atriums
- Balustrades
- Cladding
- Facades
- Glass fins
- Link bridges
- Noise protection walls
- Overhead and sloped glazing
- Podium glass
- Storefronts

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