



# SEEN ELEMENTS

HIGHLY EFFECTIVE BIRD PROTECTION  
FOR YOUR GLASS SURFACES



## WHY DO BIRDS COLLIDE WITH GLASS SURFACES?

Worldwide, collisions with glass panes are the most common cause of death for birds.<sup>1</sup>

Birds are very well adapted to their original environment with their visual sense. However, they do not easily recognise glass as an obstacle. For their protection, panes of glass must be clearly marked.

The danger of birds hitting glass surfaces is particularly high in areas close to nature. Injured or dead birds are often eaten by predators or prey, so the problem is only visible to a limited extent.



[1] <https://abcbirds.org/glass-collisions/resources/> - retrieved 01.07.2021

## REFLECTIVE AND NON-VISIBLE GLASS SURFACES

Glass surfaces can basically be divided into two categories: Facades that reflect their surroundings and transparent glazing that is not visible to birds.

The darker the background, the stronger the reflections in the façade area. This applies both to simple glazing and to glass surfaces with thermal or solar control coatings.

Examples of transparent glazing – invisible to the bird – are soundproof walls, parapets and corner glazing or passerelles glazed on both sides. They offer a clear view and thus simulate an unobstructed flight path.





EXAMPLE OF TRANSPARENT GLAZING

## ADVANTAGES OF SEEN ELEMENTS

SEEN Elements offer highly effective protection against bird strikes on both reflective and transparent glass surfaces.

**Two different grids** in various material combinations are available. All variants were tested by the Hohenau-Ringelsdorf Biological Station in the flight tunnel and classified in **category A - highly effective**.

## EXTERIOR VIEW 9/90MM GRID



At the same time, the minimal coverage of the glass surface reduces the irritation of the human eye to a minimum. The architectural effect of the glazing is thus preserved.

Due to the simple application, the retrofitting of existing panes is also possible for private individuals. In contrast to many other products, there is no need for full-surface, bubble-free bonding of the glass surface. Only the individual dots remain.

SEEN Elements consist of either a highly reflective or semi-reflective, metallic front side and a neutral, light-absorbing rear side. They offer a **new, effective way** to protect your glass from bird strikes.



Outside:  
SEEN shiny

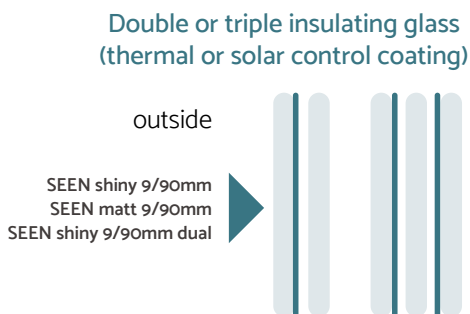
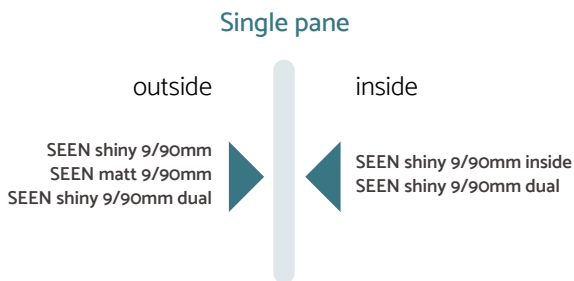
Outside:  
SEEN matte

Inside:  
light-absorbing  
rear side

## INTERIOR VIEW 9/90MM GRID



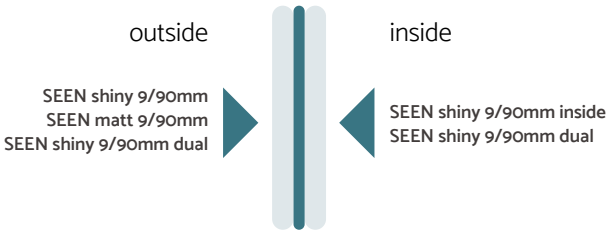
# WHICH VARIANTS ARE SUITABLE FOR WHICH GLASSES?



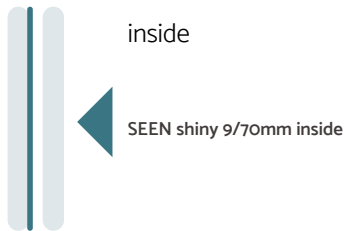
## SPECIFICATIONS

9/90MM GRID	
ARRANGEMENT	
VARIANTS	SEEN shiny 9/90mm (highly reflective) SEEN matt 9/90mm (semi-reflective)
COVERED GLASS SURFACE	0,80 %
TEST REPORT	2020-2022
EVALUATION	Category A - highly effective

## Laminated glass pane



## Double-insulating glass (thermal insulation coating)



9/70MM GRID	
ARRANGEMENT	<p>The diagram shows a square frame with a side length of 70 mm. Inside the frame, there is a smaller square grid with a side length of 9 mm. The grid is positioned in the bottom right corner of the frame.</p>
VARIANTS	SEEN shiny 9/70mm inside (highly reflective)
COVERED GLASS SURFACE	1,25 %
TEST REPORT	2023
EVALUATION	Category A - highly effective

## ABOUT SEEN AG

Outstanding products and comprehensive services are the cornerstones of our partnership. It is imperative for us to maintain a forward-thinking approach. This is how we provide you with innovative, bespoke solutions for architecture, facade planning, and interior design.

## ORDERING INFORMATION AND CONTACT

SEEN Elements for your glass application as well as the test reports of the Biological Station Hohenau-Ringelsdorf are available directly from us or through our partners. We will be happy to help you choose the right product variant, calculate the material requirements, or forward your enquiry to one of our partners. Please contact us by phone, e-mail, or via our website:

[www.en.seen-group.com](http://www.en.seen-group.com)



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Recommended by: