

**Avoiding bird collisions with glass surfaces – tests in the Flight Tunnel II.
Black markings, black-orange markings, Eckelt 4BIRD®, Evonik Soundstop®
XT BirdGuard
February 2010**

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german version (886 KB pdf)

<http://wua-wien.at/images/stories/publikationen/vogelanprall-wahlversuche-flugtunnel-2010.pdf>

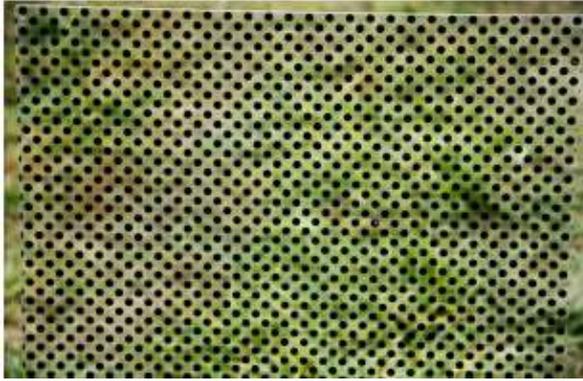
*„Vermeidung von Vogelanprall an Glasflächen - Wahlversuche im Flugtunnel“
Schwarze Punkte, Schwarz-orange Markierungen, Eckelt 4BIRD®, Evonik
Soundstop® XT BirdGuard*

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The markings tested at the Biological Station Hohenau-Ringelsdorf in 2009 are based on foregone tests and built on successive awareness. Main issue of the tests were comparisons of dot matrixes with vertical rows of dots, comparisons of stripes with different width and orientation and comparisons of monochrome black markings versus combined black-orange ones.

The comparison of a dot matrix (27% coverage) with a double row of vertical dots (10% coverage) shows no difference. Monochrome black markings do not come off worse than a combination of black-orange markings. At a higher global radiation the monochrome black markings are more effective than in low light situations. Vertical black-orange stripes with a coverage of 8.5% do not come off better than vertical orange stripes with a coverage of 4.8%. The width of 2mm seems to be the limit for stripes to be recognized by birds. Vertical lines with a width of 2mm are approached more often than horizontal lines of the same width. This observation is contradictory to tests which indicate that birds avoid vertical markings more often than horizontal ones. This conflict is interpreted as a detection problem: vertical lines are harder to detect in front of vertically growing vegetation. That leads to the general assumption that markings close to the threshold of perception lose efficacy in a disproportionate extent even if they are modified only slightly.

Choice experiments in the flight tunnel show whether birds are able to detect marked glass panes and to avoid the obstacle. With an adequate random sample it is possible to differentiate the efficacy of markings. Thus a graded rating scale has been developed, dividing the markings into four categories (A=highly effective, B=limited suitability, C=poor suitability, D=not effective). Due to the increasing use of glass panes in buildings, bird collision is a matter of growing importance. Thus the best products to avoid bird collision are just good enough. Only markings which are avoided by at least 90% of the birds in the choice experiment can be recommended without reservation.



2.5%



5.2% Eckelt 4BIRD® V 3067



10.1% Eckelt 4BIRD®



2.4% Eckelt 4BIRD® V 3066



5.6% Eckelt 4BIRD® V 3064



11.6% Evonik Soundstop® XT BirdGuard



25.0 % Evonik Soundstop® XT BirdGuard

“%“ birds flying towards the marked pane in the choice experiment