



SCHOTT
glass made of ideas

AMIRAN®

Anti-reflective glass

SCHOTT is an international technology group with more than 125 years of experience in the areas of specialty glasses and materials and advanced technologies. With our high-quality products and intelligent solutions, we contribute to our customers' success and make SCHOTT part of everyone's life.

SCHOTT works closely with architects and designers to extend the boundaries of design and create new opportunities for building culture – in terms of design and space, indoors and outdoors, for solar power and fire protection, aesthetics and functionality – sustainable and custom-tailored. That's what makes SCHOTT a qualified partner for architecture and design.

Cover: UBS Towers, Chicago
 Architecture: Goettsch Partners
 Right: Entrance hall of the UBS Towers
 Photo: Steinkamp/Ballogg photography

SCHOTT AMIRAN® is an anti-reflective glass with an interference coating on both sides, ensuring a clear view both day and night. Its durable, high-tech coating reduces reflections to less than 1 percent and allows up to 98 percent of the light to pass unobstructed through the glass.



A clear view of what counts

Low in reflection, superb color rendition, nearly invisible

SCHOTT AMIRAN® anti-reflective glass with crystal clear transparency, even with a significant difference in the amount of light in front of and behind the pane. It reduces reflections to just a fraction of those seen with conventional glass. This makes AMIRAN® anti-reflective glass the material of choice for display windows and showrooms, museums and glass cabinets, VIP seating areas in stadiums and panorama restaurants, television and recording studios, façades and balustrades, lobbies and foyers.

Sizes up to 148.4 x 69.7 inches (3,770 x 1,770 mm) ensure transparency on every front. The boundaries between the outside and inside dissolve, giving you the highest possible freedom of design. Canopies or other structures designed to avoid reflections are no longer necessary. What is more: increased daylight inside will lower your energy costs and lighting expenditures. Using low-iron glass as the substrate ensures true color rendition.

Innovative technology

All of this is made possible by the sol-gel dipping process developed by SCHOTT. The glass is successively dipped in metal oxide solutions. The drying speed determines the thickness of the layer – with the highest precision.

Hard coating

Once dried, the metal oxide coating layers are burned in at 450° to 500° Celsius. Interference between the oxide layers eliminates reflections. These layers are actually much purer and more stable than those processed with conventional PVD techniques (such as vapor deposition or sputtering, for example).

Durable and easy to keep clean

This translates into excellent optical qualities and is what makes AMIRAN® anti-reflective glass so incredibly durable. The coating resists both scratching and chemicals, making AMIRAN® easy to clean using commercially available glass cleaners.

AMIRAN®

- > Maximum reflection blocking on both sides
- > <1 % residual reflection
- > Up to 98 % transmission
- > Durable, easy to clean and chemically stable
- > CE certified
- > Available in a variety of different substrate glasses
- > Several processing options (as safety glass, laminated safety glass or insulated glass units, for example)

Left: Thompson Boling Arena at the University of Tennessee, Knoxville

Right: Museum of Islamic Art, Doha, Qatar
Photo: zedphoto.com





Audi Showroom, Tokyo

SCHOTT AMIRAN®

Diverse and one-of-a-kind

The range of applications for AMIRAN® anti-reflective glass goes even further thanks to the many different processing options SCHOTT offers. AMIRAN® anti-reflective glass can be bent, printed on or drilled. It can be tempered (annealed glass) or processed into safety glass or laminated safety glass. The result is an insulated glass that is nearly reflection-free and features either thermal insulation, sun or noise protection coating or even special solutions to meet even the most stringent safety requirements. Need 99 percent UV protection? No problem. SCHOTT can develop customized AMIRAN® anti-reflective glass solutions to suit your project.

Please contact us.

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AMIRAN® anti-reflective glass

Technical Data Sheet







Base material: float glass (clear)/float glass (tinted)/low-iron glass/PYRAN® fire-resistant glass

Options: curved glass/safety glass/laminated safety glass/annealed glass/insulating glass/sun protection glass/sound protection glass/alarm glass/attack resistant glass/screen printing/drilling of holes/edge processing

	Max. net dimensions	Available thicknesses	Glass substrate	Visual reflectance	Light transmission	General color rendering index	Heat transfer coefficient	Total energy transmission factor	UV transmission factor
	Inches (mm)	Inches (mm)		P _{VD65} %	T _{VD65} %	Ra	Ug	g %	T _{UV} %
 AMIRAN®	148.4 × 69.7 (3,770 × 1,770)	0.16 to 0.47 (4 to 12)	Float glass low-iron glass	approx. 1 approx. 1	96 approx. 98	98 99	5.8 5.8	approx. 89 approx. 90	approx. 46 56
 AMIRAN® safety glass	148.4 × 69.7 (3,770 × 1,770)	0.16 to 0.47 (4 to 12)	Float glass low-iron glass	approx. 1 approx. 1	96 approx. 98	98 99	5.8 5.8	approx. 89 approx. 90	approx. 46 56
 AMIRAN® LSG with a PVB film	148.4 × 69.7 (3,770 × 1,770)	dependant on structure	Float glass low-iron glass	approx. 1 approx. 1	95 98	99 99	5.7 5.7	approx. 82 approx. 89	approx. 1 approx. 1
 AMIRAN® ISO optionally as safety glass	148.4 × 69.7 (3,770 × 1,770) dependant on the processor	dependant on structure	Float glass low-iron glass	approx. 2 approx. 2	95 96	approx. 99 98	2.6 2.6	79 87	45 76
 AMIRAN® ISO with sun/ heat protec- tion, optionally as safety glass	148.4 × 69.7 (3,770 × 1,770) dependant on the processor	dependant on structure	Float glass low-iron glass	approx. 3 approx. 3	80 85	approx. 97 approx. 98	1.1 1.1	48 51	9.5 14

Conventional glass in comparison

Safety glass	dependant on the manufac- turer	dependant on the manufac- turer	Float glass low-iron glass	approx. 8 approx. 8	90 91	89 99	5.8 5.8	86 91	62 84
Insulating glass	dependant on the manufac- turer	dependant on the manufac- turer	Float glass low-iron glass	approx. 15 approx. 15	80 84	97 99	2.6 2.6	75 83	39 72

-  Glass lite
-  AMIRAN® anti-reflective glass coating
-  PVB film
-  Spacer
-  Space between the panes (filled with air or gas)
-  Solar control coating (Arcon Sunbelt Platin)

1. The values refer to a glass thickness of 0.16 in (4 mm) for monolithic glasses. The structure selected for laminated safety glass is 0.16/0.03/0.16 in (4/0.76/4 mm); for insulating glass units 0.16/0.63/0.16 in (4/16/4 mm) filled with argon gas.

2. The values are calculated based on the standards DIN EN 410 and DIN EN 673.