

SCHOTT
glass made of ideas

MIROGARD®

Anti-Reflective Glass
for Art Glazing



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SCHOTT is a leading international technology group in the areas of specialty glass and glass-ceramics. With more than 130 years of outstanding development, materials and technology expertise we offer a broad portfolio of high-quality products and intelligent solutions that contribute to our customers' success.

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, aesthetics and functionality. That's what makes SCHOTT a qualified partner for architecture.

SCHOTT MIROGARD® is an anti-reflective, completely transparent glass for use in glazing pictures. In addition it is available in two versions: MIROGARD® plus and MIROGARD® Protect, which also features enhanced UV-protection. It minimizes reflections to less than 1% and provides artlovers with an experience of the work that is true to the original. The ideal invisible protection – for Old Masters and young talents alike.



Masterful picture glazing

Low in reflection, neutral in color, nearly invisible

Museums, collections and galleries all over the world have been relying on SCHOTT MIROGARD® Anti-Reflective Glass for decades. This practically invisible glass features an anti-reflective optical interference coating that protects valuable works of art without disturbing the pleasure of looking at them.

Conventional glass reflects approximately 8 % of incident light, creating undesirable reflections. MIROGARD® Anti-Reflective Glass reduces reflections to under 1 %, giving viewers an unobstructed view of the artwork. MIROGARD® Anti-Reflective Glass is also completely neutral in color, which means the brilliance of the glazed artwork remains true to the original and is rendered in its natural colors.

UV-protection made to order

MIROGARD® Anti-Reflective Glass also protects paintings, graphics and prints from the destructive effects of UV-radiation. 48 % of the UV-radiation in wavelengths from 300 to 380 nanometers is absorbed and reflected. This means MIROGARD® Anti-Reflective Glass already offers better protection than other art glazing products, even in its standard version. Extremely sensitive artworks can be displayed with MIROGARD® plus and MIROGARD® Protect, giving them added protection that absorbs or reflects up to 99 % of UV-radiation.

High-tech manufacturing

SCHOTT invest a great deal of effort to ensure that art lovers the world over are not distracted by the glazing. MIROGARD® Anti-Reflective Glass is dip coated using the sol-gel process. The coating production process takes place under clean room conditions. Multiple titanium dioxide and silicon dioxide layers are applied one after another with nanometer accuracy and then burned in. The result is a high-tech, anti-reflective art glass of the highest quality with a surface that is extremely stable and easy to clean.

SCHOTT MIROGARD® – Anti-Reflective Glass for Art Glazing

- Anti-reflective to the highest extent possible
- Up to less than 1 % residual reflection
- Highly transparent
- Up to 99 % light transmission
- Color rendering index up to $R_a=100$
- Durable
- Easy to clean
- Product variations **MIROGARD® plus** and **MIROGARD® Protect** are available for higher and even the highest UV protection.

Left: MIROGARD® Anti-Reflective Glass in the Ciurlionis Museum in Lithuania

Right: Various graphic works from Pablo Picasso's art books from the exhibition "Picasso Art Books" at the Museum Brandhorst, Munich

© Succession Picasso/VG Bild-Kunst, Bonn 2011





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1948 Teilnahme an zweitem Weltfriedenskongress in Sheffield | participates at the second world peace conference in Sheffield
 1950 Vertreibung des Lenin-Friedenspreises | is awarded the Lenin peace medal
 1951 Gemälde Mosaiker in Korea als Protest gegen die amerikanische Invasion Koreas | painting Mosaicists in Korea as protest against the American invasion of Korea
 1952 Kandidatur Der König und Der Frieden für eine Kapelle in Vallauris | mural The Fall of the Monarchy for a chapel in Vallauris
 1953 Portrait Stalins für die Zeitung «Les Lettres Françaises» als Auslöser für den Bruch mit der Sowjetunion | portrait of Stalin for the newspaper «Les Lettres Françaises» as trigger for the break with the Soviet Union
 1954 Protokoll an die Kommunistische Partei wegen des Einmarschs russischer Truppen in Ungarn | protocol to the Communist Party because of Russian invasion of Hungary
 1954/59 Beschäftigung mit den grafischen Techniken Linolschnitt und Zellophan | occupation with the graphic techniques linocut and Zellulose

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Black-and-white photography displayed with minimal reflections and UV protected by MIROGARD® Anti-Reflective Glass in a living room.

SCHOTT MIROGARD® – Anti-Reflective Glass for Art Glazing

Proven and innovative

The anti-reflective specialty glass MIROGARD® has been constantly further developed since it was first introduced in the 1970s. For instance, SCHOTT recently optimized the color shade of its minimal residual reflection based on intensive research by its experts. The coating that the company has further developed improves the visual impression of the residual reflection that can be seen from certain viewing angles. Now, the color shade no longer distracts attention from the actual artwork.

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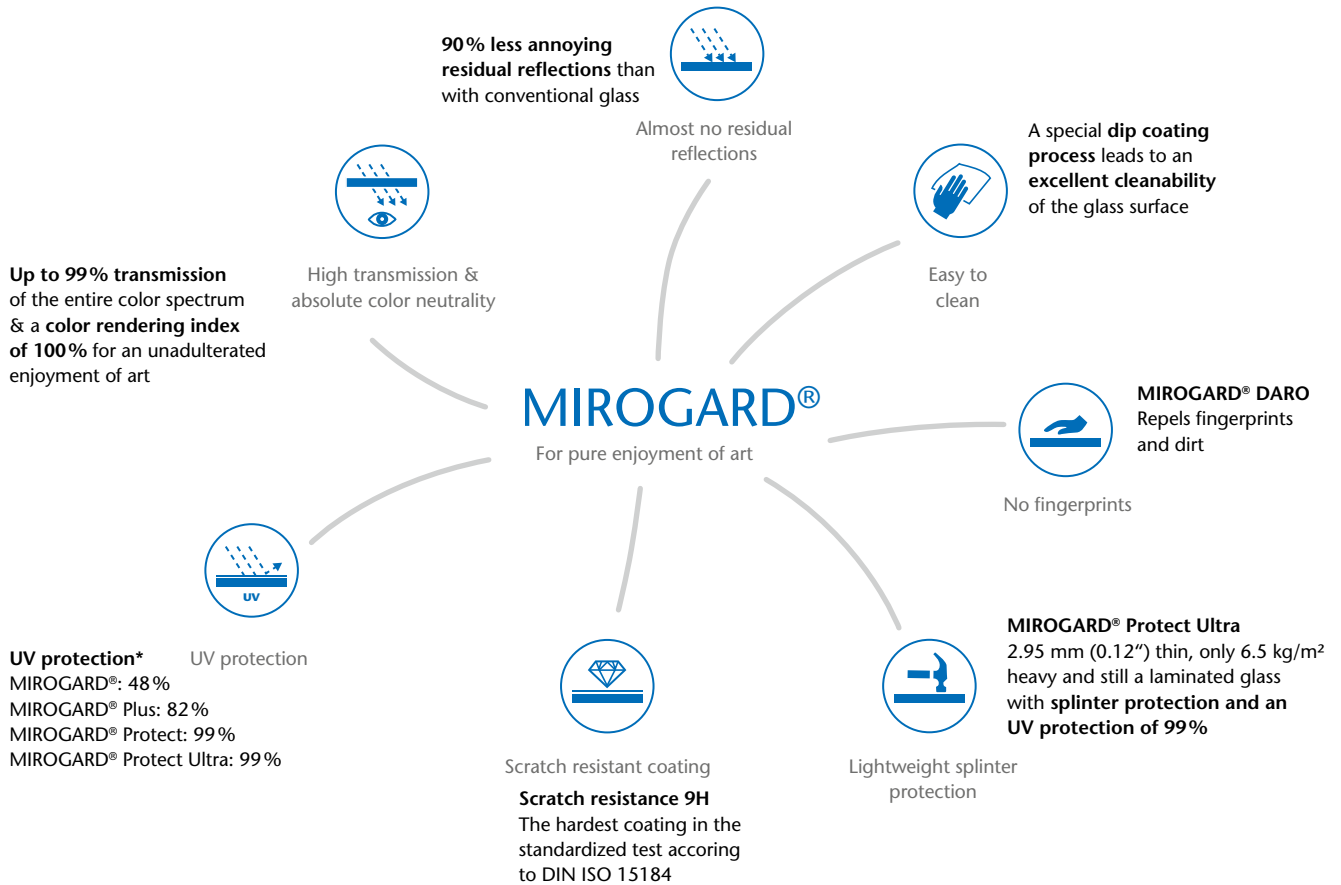
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SCHOTT MIROGARD® – Anti-reflective Glass for Art Glazing

Technical Data Sheet

Product benefits at a glance



Quality made in Germany

Museums, collections and galleries all over the world have been relying on SCHOTT MIROGARD® for over 50 years. The almost invisible optical interference anti-reflective glass protects valuable works of art without disturbing the pleasure of looking at them.

The unique hard coating technology from SCHOTT ensures maximum scratch resistance by burning in the applied layers.

The product variances MIROGARD® Plus, MIROGARD® Protect and MIROGARD® Protect Ultra are available with a higher UV protection.

MIROGARD® Protect and MIROGARD® Protect Ultra also offer maximum splinter protection due to their construction as laminated glass and reliably protect every work of art.

A product from production to sales made in Germany.








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Technical Data Sheet

Available dimensions and thicknesses

Product	Thickness mm (inches)	Dimensions mm x mm (inches x inches)		Light reflection** ρ_{VA} %	Light transmission** τ_{VA} %	UV- protection** τ_{UV} %
		gross (with dipping edge)	net (only coated surface)			
MIROGARD® 	2* (1/16")*	1,250 x 890 (49.2" x 35.1")	1,220 x 885 (48.0" x 33.7")	0.9	99	48
	2* (1/16")*	1,730 x 1,030 (68.1" x 40.6")	1,600 x 1,000 (63.0" x 39.4")			
	2; 3; 4 (1/16"; 1/8"; 5/32")	1,900 x 1,250 (74.8" x 49.2")	1,770 x 1,220 (69.7" x 48.0")			
	3; 4	3,210 x 1,900 (126.4" x 74.8")	3,180 x 1,770 (125.2" x 69.7")			
	(1/8"; 5/32")					
MIROGARD® Plus 	2* (1/16")*	1,250 x 890 (49.2" x 35.1")	1,220 x 885 (48.0" x 33.7")	1.1	98	82
	2*; 3 (1/16"; 1/8")	1,900 x 1,250 (74.8" x 49.2")	1,770 x 1,220 (69.7" x 48.0")			
	3; 4	3,210 x 1,900 (126.4" x 74.8")	3,180 x 1,770 (125.2" x 69.7")			
	(1/8"; 5/32")					
MIROGARD® Protect 	4.38 (0.17")	1,250 x 890 (49.2" x 35.1")	1,220 x 885 (48.0" x 33.7")	0.9	98	> 99
	4.38; 6.38; 8.38 (0.17"; 0.25"; 0.33")	1,900 x 1,250 (74.8" x 49.2")	1,770 x 1,220 (69.7" x 48.0")			
MIROGARD® Protect Ultra 	2.95* (0.12")*	1,250 x 890 (49.2" x 35.1")	1,220 x 885 (48.0" x 33.7")	0.9	98	> 99
	2.95* (0.12")*	1,900 x 1,250 (74.8" x 49.2")	1,770 x 1,220 (69.7" x 48.0")			
Optional with DARO 	2 (1/16")	1,220 x 885 (48.0" x 33.7")	1,220 x 885 (48.0" x 33.7")	Depending on the respective base substrate		
	2.95 (0.12")					
	3 – 4.38					
	(1/8" – 0.17")					

* Also available in small quantities.

** Valid for a glass thickness of 2 mm (1/16") in the spectrum 300 nm – 380 nm.

Version July 2020 | SCHOTT reserves the right to make specification changes in this product flyer without notice.

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