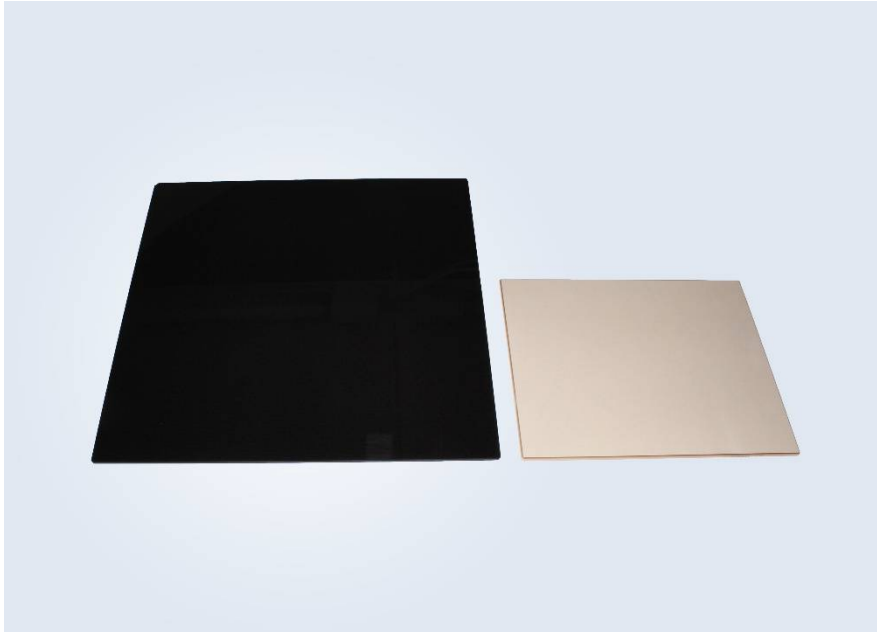


SCHOTT® Fiber Optic Faceplates



Fiber Optic Faceplates are used for high resolution 'zero thickness' image transfer applications.

Fiber Optic Faceplates can be coupled to CCD, CMOS and OLED devices to enable image intensification, remote viewing, field flattening and x-ray imaging.

Characteristics

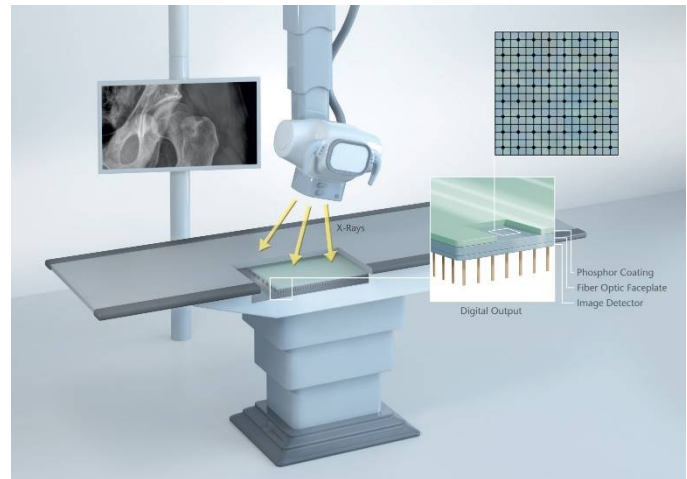
In opto-electronic applications, coated faceplates are used as both input and output high resolution image transfer windows.

- Variety of sizes up to 320 x 320 mm.
- Fiber size from 2.5 μm to 25 μm or larger in fiber diameter.
- Core/clad options to vary transmission and contrast.
- Hermetically tight.
- Radiation-hardened materials available.
- Faceplate sizes are intended to serve the digital x-ray market as well as displays for commercial and defense applications.

Your Advantages

In some applications, the x-ray absorption properties of the fiber optic plates protect the photodetectors from damage and prevent electronic noise affecting the images.

- All SCHOTT faceplates are fabricated to customer-specific requirements.
- Faceplates are of a single piece construction (no tiling)
- Typical shapes are round or rectangular.



Glass Compositions for Faceplates

Glass Type										
Typical Performance Parameters	47A	47A HT	47ARH Radiation hardened	RFG 88	24A	24AS	24C	74 HR	75A	75C
Fiber size (µm)/Resolution lp/mm**	6/102 4/128	6/83	6/102 12/32	6/102 4/128	25/23 10/64 8/72 6/102	8/72 6/102 4/128 2.5/203	10/64 6/102 4/128	6/96	27/23	6/102
Numerical Aperture	1.0	1.0	1.0	0.88	1.0	1.0	1.0	1.0	0.58	0.58
Stray Light Control (EMA)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Collimated Transmission @ 550nm (3 mm)	73	85	69	73	70	75	86	65	60	95
Coefficient of Thermal Expansion (x10 ⁻⁷ /°C)	68	70	68	63	68	68	68	87	61	61
Density (g/cm ³)	4.15	4.5	4.15	3.41	4.0	4.0	4.0	4.1	3.05	3.05
Core/Clad Ratio	75/25	90/10	75/25 90/10	70/30	70/30	70/30	70/30	65/35	60/40	75/25
Lead Free	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
Phosphor Compatible	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Maximum Square Formats (mm)	320	320	320	320	320	320	320	150	320	320

** Resolution Measurement performed with a 1951 USAF Resolution Target using diffuse white light illumination. Resolution may vary with other wavelengths.

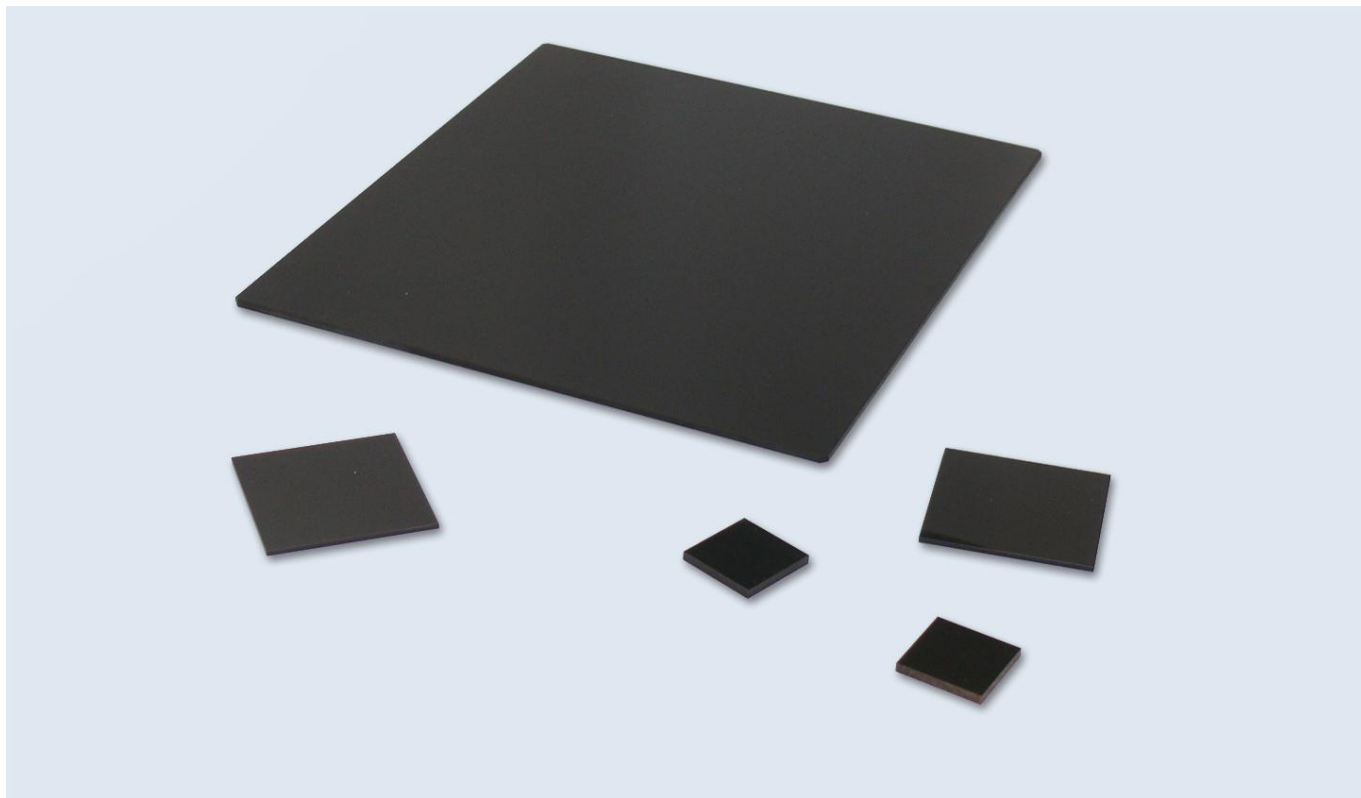
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SCHOTT® Defined Viewing Angle Faceplates

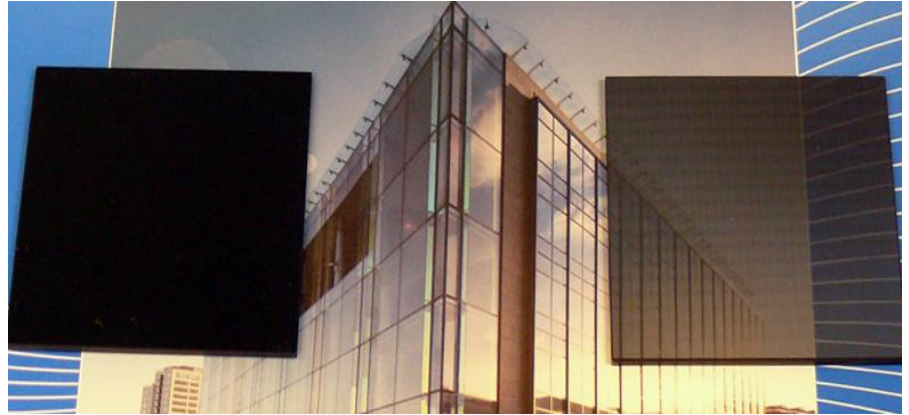
Next generation fiber optics display technology for defense



Example application of an optical "cut-off" from a defined viewing angle faceplate

Performance Characteristics

- Optical "cut-off" is independent of viewing orientation
- Superior performance compared to existing privacy screens
- Zero depth imaging window characteristics, brings images to top surface
- Thermally stable over a wide temperature range
- Materials do not degrade due to UV exposure
- Liquid and vacuum tight for environmental protection
- Glass materials provide inert and durable surface properties
- Compatible with LCD, LED and OLED display technologies

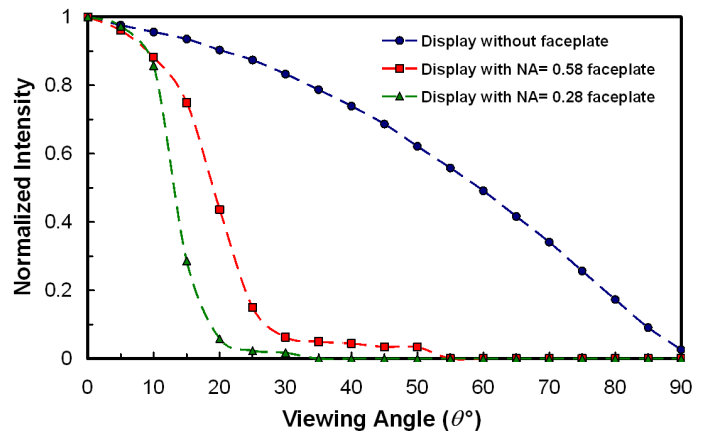


Example of SCHOTT's "Zero Depth" Faceplates with a large viewing angle

Example of defined viewing angle faceplates with different optical "cut-offs"

Specifications*	
Sizes Available:	up to 275 x 275mm
Numerical Aperture (Viewing Angle) Available:	.28 (32°), .35 (41°), .58 (71°)
With EMA:	Stray Light Control
Fiber Size:	25 – 75µm
Thermally Stable:	-40 to +200 °C (minimum range)
Compatible with most optical coatings (AR, Hot Mirror, etc...)	
Materials do not degrade with UV exposure	
* Design and Manufacture according to customer's request. Please contact our sales department for further details.	

Optical Cutoff Characteristics of Defined Viewing Angle Faceplates



For more information please contact:



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