# SCHOTT® Fiber Optic Faceplates

Now introducing our NEW glass compositions for high resolution image transfer!

## Performance Characteristics

Faceplates are used for high resolution, “zero thickness” image transfer applications that include CCD and CMOS coupling, CRT/LCD displays, image intensification, remote viewing, field flattening and x-ray imaging. In opto-electronic applications, faceplates are used as both input and output image intensifier windows.

All SCHOTT faceplates are fabricated to customer-specific requirements. Typical shapes are round or rectangular, and in a variety of sizes up to 300 $mm^2$ formats with special sizes to 450 $mm^2$. Typical element sizes range from as small as 2.5 µm to 25 µm or larger.

Faceplates can be manufactured to be vacuum tight.

## NEW Glass Compositions for Faceplates

| NEW Glass Types | | | | |
|---|---|---|---|---|
| Typical Performance Parameters | RFG 85 | RFG 88 | RFG 92 | RFG 95 |
| Fiber size (µm)/Resol-ution lp/mm | 6/102 | 6/102<br>4/128 | 6/102 | 6/102 |
| Numerical Aperture | 0.85 | 0.88 | 0.92 | 0.95 |
| Stray Light Control (EMA) | Yes | Yes | Yes | Yes |
| Collimated Transmission @ 550nm (10mm thick) – normal (%) | NA | 73 | 83 (@ 3mm thick) | NA |
| Coefficient of Thermal Expansion ($x10^{-7}$/ºC) | NA | 63 | 80 | NA |
| Density ($g/cm^3$) | 3.0 | 3.41 | 3.69 | 3.0 |
| Core/Clad Ratio | 70/30<br>75/25 | 70/30 | 75/25<br>90/10 | 70/30<br>72/25 |
| Lead Free | Yes | Yes | Yes | No |
| Phosphor Compatible | NA | Yes (photo-cathode compatible) | Yes | NA |
| Twist/ Stretch Capability | TBD | Yes | TBD | TBD |
| Maximum Square Formats (mm) | NA | NA | NA | NA |

SCHOTT
glass made of ideas

| Typical Faceplate Specifications | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Typical Performance Parameters | Glass Type* | | | | | | | | |
| | 47A | 47ARH Radiation hardened | 24A | 24AS | 24C | 75A | 75C | 55A | 55C |
| Fiber size (µm)/Resolution lp/mm** | 6/102<br>4/128 | 6/102 | 25/23<br>10/64<br>8/72<br>6/102 | 8/72<br>6/102<br>4/128<br>2.5/203 | 10/64<br>6/102<br>4/128 | 27/23 | 6/102 | 60/10 | 60/10 |
| Numerical Aperture | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.58 | 0.58 | 0.28 | 0.28 |
| Stray Light Control (EMA) | Yes | Yes | Yes | Yes | No | Yes | No | Yes | No |
| Collimated Transmission @ 550nm (10mm thick) – normal (%) | 70 | 68 | 70 | 70 | 85 | 68 | 80 | 68 | 80 |
| Coefficient of Thermal Expansion ($x10^{-7}$/ºC) | 68 | 68 | 68 | 68 | 68 | 61 | 61 | 78 | 80 |
| Density ($g/cm^3$) | 4.15 | 4.16 | 4.0 | 4.0 | 4.0 | 3.05 | 3.05 | 2.4 | 2.4 |
| Core/Clad Ratio | 75/25 | 75/25 | 70/30 | 70/30 | 70/30 | 75/25 | 75/25 | 75/25 | 75/25 |
| Lead Free | Yes | Yes | No | No | No | Yes | Yes | Yes | Yes |
| Phosphor Compatible | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Twist/Stretch Capability | No | No | Yes | Yes | Yes | No | No | No | No |
| Maximum Square Formats (mm) | 300 | 300 | 300 | $\leq$ 31 | 300 | 300 | 300 | 300 | 300 |

* Other special glass types available upon customer's request

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

ENGLISH Version 07.2013



Lighting and Imaging
**SCHOTT AG**
Hattenbergstrasse 10
55122 Mainz
Germany
Phone: +49 (0) 6131/66 7833
Fax: +49 (0) 6131/66 7850

lightingimaging@schott.com

SCHOTT
glass made of ideas