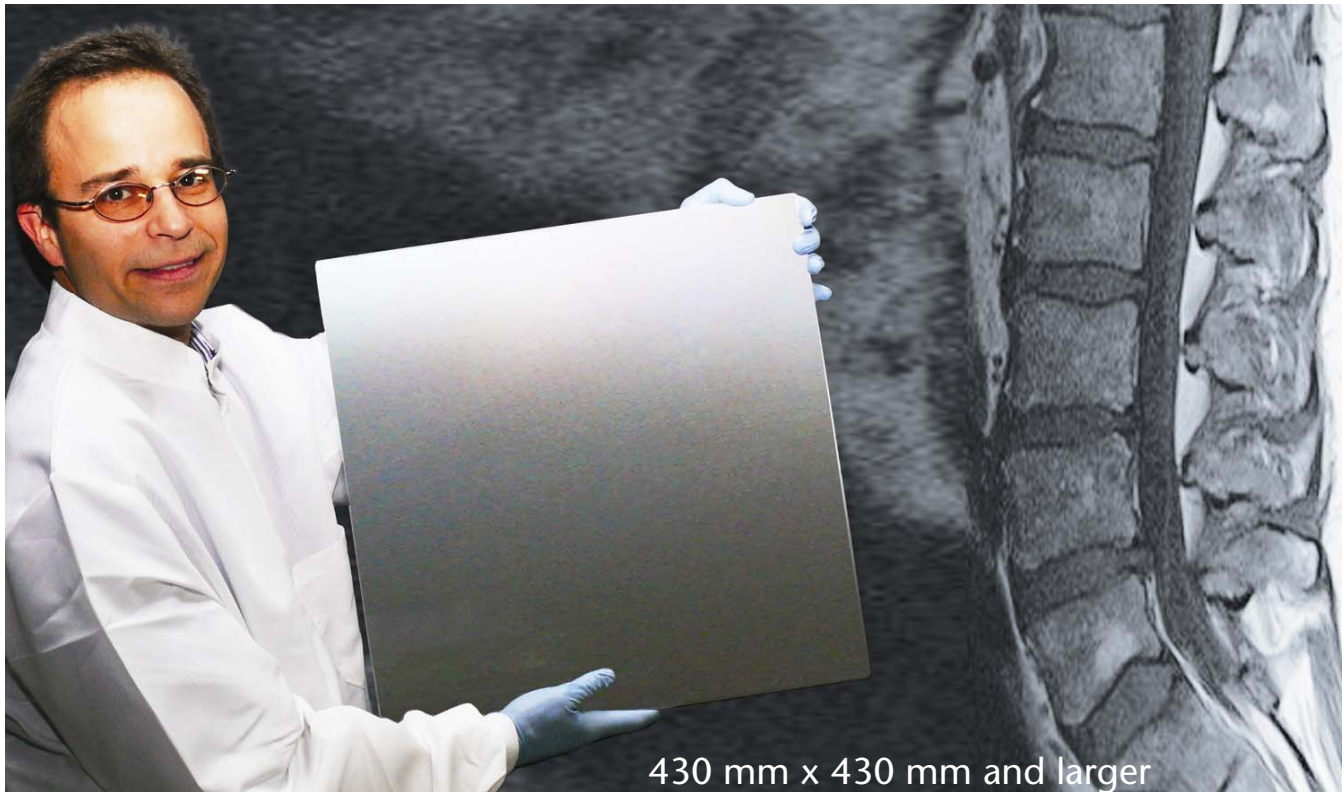


430 x 430 mm & Larger!
Single Piece

X-Large Format Fiber Optic Faceplates

High Resolution Image Transfer for Digital X-Ray Applications



Performance Characteristics

SCHOTT North America's Lighting and Imaging division has increased the format size of one-piece fiber optic faceplates to an area beyond 430 mm x 430 mm. These new faceplate sizes are intended to serve the digital X-ray market as well as displays for commercial and defense applications.

For the digital X-ray market, SCHOTT fiber optic components perform 3 functions: 1) as a substrate onto which scintillating coatings are deposited, 2) as a light guide which efficiently couples the scintillating screen to the photosensitive device, such as a CCD or CMOS detector, delivering high resolution images at improved contrast, and 3) the X-ray absorption properties of the fiber optic plates protect the photodetectors from damage and prevent extraneous noise from compromising the images.

SCHOTT draws from its present glass catalog, consisting of many numerical apertures, to offer customized solutions for medical and industrial X-ray imaging and light control applications. Changes to the fiber optic design and glass composition result in faceplate materials with high optical transmission (HT) and solarization resistance (RH). (See charts on reverse.)

SCHOTT faceplates are available in a variety of sizes and shapes. They can be manufactured with fiber optic elements ranging from 4 microns in diameter to 25 microns, or larger.

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Typical Faceplate Specifications

Typical Performance Parameters	Glass Type			
	47A	47A HT	47A RH	48A
Fiber Size (µm)/ Resolution (lp/mm)	6/83	6/83	6/83	25/20
Numerical Aperture	1.0	1.0	1.0	1.0
Stray Light Control (EMA)	Yes	Yes	Yes	Yes
Collimated Transmission at 550 nm: 3 mm Thick (%)	73	78	62	60
Coefficient of Thermal Expansion ($\times 10^{-7}$ /K)	68	70	68	98
Maximum Formats (mm)	300 x 375	300 x 375	300 x 375	430 x 430 & larger
X-Ray Attenuation %				
28 kVp	98.8	98.9	98.8	98.9
70 kVp	96.3	97.7	96.5	97.2
140 kVp	67.8	73.0	69.1	66.9
Density, g/cm ³	4.15	4.50	4.15	4.23

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