

MAGNESIUM FLUORIDE (MgF₂) COMPONENTS

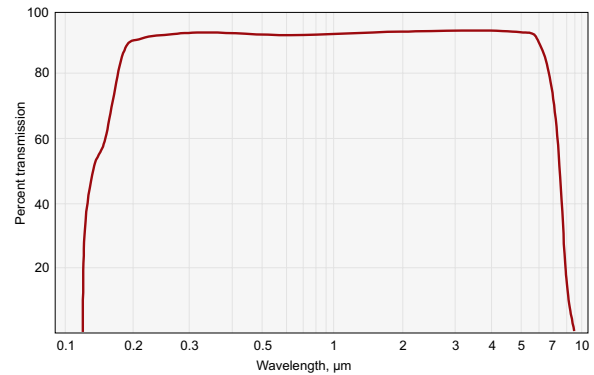
Features

- Very hard and rugged
- Resistant to mechanical and thermal shock
- The only optical material combining a wide spectral transmission band with the birefringence phenomenon

Magnesium fluoride is a proven material for high energy lasers, and in particular for lasers operating in the UV range.

Generally all optical elements are manufactured with the working surface perpendicular to the c-axis of MgF₂ crystal.

MgF₂ lenses, windows, mirrors, prisms are available upon request.



External transmission of MgF₂ window of 10 mm thickness

Physical properties

Crystal type	tetragonal
Lattice constant, Å	a = 4.60, c = 3.06
Density, g/cm ³	3.177
Melting point, °C	1255
Refractive index @ 1.0 μm	n _o = 1.3796, n _e = 1.3852
Transmission range, μm	0.12 – 7

Specifications

Material	optical quality MgF ₂ crystal ($\Delta n/cm < 0.5 \times 10^{-5}$)
Spectral range	UV, IR
Surface quality	40 – 20 scratch & dig (MIL-PRF-13830B)
Clear aperture	90% of the diameter
Diameter tolerance	+0.0 / -0.1 mm
Thickness tolerance	±0.2 mm
Surface flatness	$\lambda/4$ @ 633 nm
Parallelism	< 3 arcmin
Maximum available size of optical components	up to 50 mm

Diameter, mm	Thickness, mm	Substrate	Catalogue number	Price, EUR
25.4	3.0	UV grade MgF ₂	520-5253	130
38.1	5.0	UV grade MgF ₂	520-5385	230
50.8	6.0	UV grade MgF ₂	520-5506	370
25.4	3.0	IR grade MgF ₂	520-6253	110
38.1	5.0	IR grade MgF ₂	520-6385	215
50.8	6.0	IR grade MgF ₂	520-6506	350

Please contact us for other size, shape or precision requirements.

Housing accessories

Kinematic Mirror / Beamsplitter Mounts 840-0032, 840-0033

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