

## CALCIUM FLUORIDE (CaF<sub>2</sub>) COMPONENTS

### Features

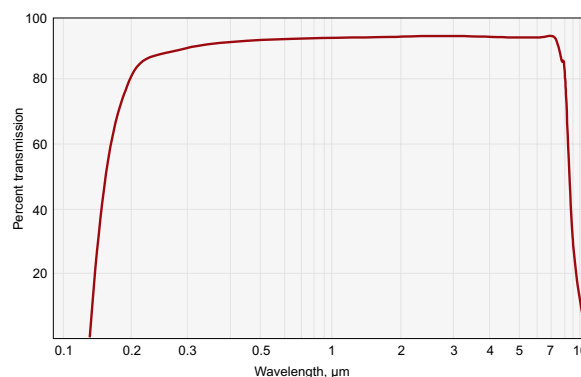
- Useful transmission over the spectral range from 0.2 to 8.0 microns
- Low solubility

Two grades of materials are available: one for UV and the other for IR applications. Low solubility and a wide transmission range makes it useful for many applications, including:

- mirror substrate for UV laser systems;
- substrate for manufacturing windows, lenses for UV, IR applications.

Due to its composition CaF<sub>2</sub> has a much longer useful life than most materials when used in a fluorine environment.

CaF<sub>2</sub> lenses, windows, mirrors, prisms, beamsplitters and beamselectors are available upon request.



External transmission of CaF<sub>2</sub> window of 10 mm thickness

### Physical properties

Crystal type	cubic
Lattice constant, Å	a = 5.462
Density, g/cm <sup>3</sup>	3.18
Melting point, °C	1360
Refractive index @ 1.0 μm	n = 1.4289
Transmission range, μm	0.13 – 10

### CaF<sub>2</sub> WINDOWS

#### Specifications

Material	optical quality CaF <sub>2</sub> crystal ( $\Delta n/cm < 0.5 \times 10^{-5}$ )
Spectral range	UV, VIS, IR
Surface quality	40 – 20 scratch & dig (MIL-PRF-13830B)
Clear aperture	90% of the diameter
Diameter tolerance	+0.0 / -0.13 mm
Thickness tolerance	±0.2 mm
Surface flatness	$\lambda/4$ @ 633 nm
Parallelism	3 arcmin
Maximum available size of optical components up to dia	120 × 20 mm

Diameter, mm	Thickness, mm	Substrate	Catalogue number	Price, EUR
25.4	1.0	UV grade CaF <sub>2</sub>	<a href="#">530-6251</a>	80
25.4	2.0	UV grade CaF <sub>2</sub>	<a href="#">530-6252</a>	76
25.4	3.0	UV grade CaF <sub>2</sub>	<a href="#">530-5253</a>	70
38.1	5.0	UV grade CaF <sub>2</sub>	<a href="#">530-5385</a>	150
50.8	6.0	UV grade CaF <sub>2</sub>	<a href="#">530-5506</a>	250
25.4	3.0	IR grade CaF <sub>2</sub>	<a href="#">530-6253</a>	60
38.1	5.0	IR grade CaF <sub>2</sub>	<a href="#">530-6385</a>	99
50.8	6.0	IR grade CaF <sub>2</sub>	<a href="#">530-6506</a>	175
70.0	10.0	IR grade CaF <sub>2</sub>	<a href="#">530-6710</a>	230
75.0	6.0	IR grade CaF <sub>2</sub>	<a href="#">530-6756</a>	300

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

### IR GRADE CaF<sub>2</sub> PROTECTIVE WINDOWS FOR SPECTROSCOPY APPLICATION (optically polished)

#### Specifications

Material	optical quality CaF <sub>2</sub> crystal ( $\Delta n/cm < 0.5 \times 10^{-5}$ )
Surface quality	80 – 50 scratch & dig (MIL-PRF-13830B)
Clear aperture	90% of the diameter
Diameter tolerance	+0.0 / -0.13 mm
Thickness tolerance	±0.2 mm
Surface flatness	optically polished
Parallelism	<10 arcmin

Diameter, mm	Thickness, mm	Substrate	Catalogue number	Price, EUR
12.0	1	IR grade CaF <sub>2</sub>	<a href="#">530-6121</a>	5
25.4	1.5	IR grade CaF <sub>2</sub>	<a href="#">530-6131</a>	20
50.8	2.0	IR grade CaF <sub>2</sub>	<a href="#">530-6151</a>	60

### Housing accessories

Flipping Mirror / Beamsplitter Mounts 840-0155

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