



## Flouride Materials: MgF<sub>2</sub>, CaF<sub>2</sub>, BaF<sub>2</sub>, LiF

### VUV-, VIS-, IR- grades

We offer:

- raw materials
- blanks and shapes for a requested form
- polished and coated optical element

Countries of origin of the material are Belarus / Russia. Material is processed by VM-TIM

#### Internal transmission, thickness 10mm

	application range	120nm	150nm	200nm	546nm	1µm	5µm	7µm	8µm	10µm	12.5µm
BaF <sub>2</sub>	150nm-12.5µm	-	>20%	>80%	>96%	>97%	>97%	>97%	>97%	>85%	>20%
CaF <sub>2</sub>	150nm-10µm	-	>40%	>90%	>99%	>99%	>99%	>97%	>88%	>20%	-
LiF	120nm-7µm	>15%	>50%	>95%	>98%	>98%	>88%	>15%	-	-	-
MgF <sub>2</sub>	120nm-8µm	>20%	>50%	>95%	>98%	>98%	>98%	>55%	>20%	-	-

#### Refractive indices

		200nm	546nm	1µm	5µm	7µm	8µm	10µm	12.5µm
BaF <sub>2</sub>		1.5573	1.4759	1.4686	1.4511	1.4357	1.4258	1.4114	1.3585
CaF <sub>2</sub>		1.4951	1.4349	1.4289	1.3990	1.3693	1.3498	1.2996	-
LiF		1.4391	1.3931	1.3871	1.3266	1.2621	-	-	-
MgF <sub>2</sub>	n <sub>o</sub>	1.4231	1.3786	1.3736	1.3340	1.2912	-	-	-
	n <sub>e</sub>	1.4366	1.3904	1.3852	1.3488	1.2969	-	-	-

#### General properties

	symmetry	density, g/cm <sup>3</sup>	CTE, 10 <sup>-6</sup> /°C Temperature range ±60°C	melting point, °C	specific heat, J/(kg°C)	birefringence, nm/cm, striae	homogeneity, Δn	total cross-section of bubbles, mm <sup>2</sup> /100ml
BaF <sub>2</sub>	cubic, 3m3 a = c = 6.196Å	4.89	16.5-19.2	1,386	410	< 35 no visible striae	5-20·10 <sup>-6</sup>	< 0.03
CaF <sub>2</sub>	cubic, 3m3 a = c = 5.562Å	3.18	16.2-19.4	1,418	854	6-30 no visible striae	5-20·10 <sup>-6</sup>	< 0.03
LiF	cubic, 3m3 a = c = 4.026Å	2.64	28.1-34.8	870	1,562	< 35 no visible striae	5-20·10 <sup>-6</sup>	< 0.03
MgF <sub>2</sub>	tetragonal, 4/mmm a = 4.64Å, c = 3.06Å	3.18	⊥c 6.23 – 9.25    c 10.86-14.54	1,263	1,130	< 35 no visible striae	5-20·10 <sup>-6</sup>	< 0.03

standard sizes up to 50mm, sizes over 50mm are possible by request

Extended list of properties is available by request

Prices are available by request: [info@vm-tim.de](mailto:info@vm-tim.de)