

Optics from MgF₂, CaF₂, BaF₂, LiF: VUV-, VIS-, IR-Grades

We offer raw materials in blanks (or other shapes) with requested sizes and orientations as well as completed polished and coated optical elements from these materials. Usually there are customized elements.

	BaF ₂		CaF ₂		LiF		MgF ₂		
	refraction, internal transmission, 10mm								
λ [μm]	n	T(λ) [%]	n	T(λ) [%]	n	T(λ) [%]	n _o	n _e	T(λ) [%]
0.120	-	-	-	-	1.5771	>15	-	-	>20
0.140	-	-	1.6254	>25	1.5103	>35	1.5034	1.5186	>35
0.150	1.6776	>20	1.5770	>40	1.4901	>50	1.4792	1.4941	>50
0.200	1.5573	>80	1.4952	>90	1.4391	>90	1.4232	1.4386	>95
0.480	1.4790	>95	1.4373	>99	1.3951	>98	1.3804	1.3923	>97
0.486	1.4786	>95	1.4371	>99	1.3949	>98	1.3802	1.3921	>97
0.546	1.4759	>96	1.4349	>99	1.3931	>98	1.3786	1.3904	>98
0.588	1.4745	>96	1.4339	>99	1.3921	>98	1.3777	1.3895	>98
0.644	1.4731	>96	1.4327	>99	1.3911	>98	1.3768	1.3886	>98
0.656	1.4728	>97	1.4325	>99	1.3909	>98	1.3766	1.3884	>98
1.00	1.4687	>97	1.4289	>99	1.3871	>97	1.3737	1.3853	>98
3.00	1.4612	>97	1.4179	>99	1.3665	>97	1.3619	1.3725	>98
4.00	1.4568	>97	1.4097	>99	1.3493	>93	1.3525	1.3623	>98
5.00	1.4511	>97	1.3990	>99	1.3266	>88	1.3401	1.3488	>97
7.00	1.4357	>97	1.3694	>97	1.2621	>15	1.3045	1.3101	>55
8.00	1.4259	>97	1.3499	>88	-	-	-	-	>20
10.00	1.4014	>85	1.2996	>20	-	-	-	-	-
12.00	1.3697	>42	-	-	-	-	-	-	-
12.50	1.3604	>20	-	-	-	-	-	-	-

	dispersion					
λ [μm]	v(λ)	v(λ)	v(λ)	v(λ)	v(λ)	v(λ)
e-line 0.546	80.7	94.5	98.3	105.2	105.5	
d-line 0.588	81.8	94.3	98.0	104.9	105.3	
4.00	45.2	21.7	8.8	16.2	15.3	
10.00	7.1	-	-	-	-	

density	4.89 g/cm ³	3.18 g/cm ³	2.64 g/cm ³	3.18 g/cm ³
CTE@25°C	18.4x10 ⁻⁶ /K	18.4x10 ⁻⁶ /K	32.0x10 ⁻⁶ /K	llc 8.8, lc 13.1 x10 ⁻⁶ /K
specific heat capacity	0.4 J/gK	0.9 J/gK	1.6 J/gK	1.1 J/gK
thermal conductivity	7.1 W/mK	9.7 W/mK	14.2 W/mK	3.1 W/mK
melting temperature	1386 °C	1418 °C	870 °C	1263 °C