

# MAGNESIUM FLUORIDE (MgF<sub>2</sub>)

## Refractive Index n Vs. Wavelength $\lambda$

Wavelength ( $\mu\text{m}$ )	$n_o$	$n_e$
0.1137	1.780	-
0.1149	1.742	-
0.1179	1.680	-
0.1198	1.651	-
0.1210	1.628	1.632
0.1300	1.566	1.568
0.1400	1.509	1.523
0.1500	1.480	1.494
0.1600	1.461	1.475
0.1700	1.448	1.462
0.1800	1.439	1.453
0.1900	1.431	1.444
0.2000	1.423	1.416
0.2200	1.413	1.426
0.2480	1.403	1.416
0.2570	1.401	1.414
0.2660	1.399	1.401
0.2800	1.396	1.409
0.3000	1.393	1.405
0.3300	1.389	1.402
0.3370	1.389	1.401
0.3500	1.387	1.400
0.3550	1.386	1.399
0.4000	1.384	1.396
0.5460	1.379	1.390
0.7000	1.376	1.388
1.0870	1.373	1.385
1.5120	1.370	1.382
2.0000	1.368	1.379
2.5000	1.364	1.375
3.0300	1.360	1.370
3.5710	1.354	1.364
4.0000	1.349	1.359
4.5460	1.341	1.350
5.0000	1.334	1.343
5.5560	1.324	1.332
6.0600	1.314	1.321

## Optical Properties

Refractive Index	1.413
Transmission Range	0.2 – 7.0 $\mu\text{m}$

## Thermal Properties

Thermal Linear Expansion	13.7 / 8.9 x 10 <sup>-6</sup> /K
Thermal Conductivity	21 / 33.6 W m <sup>-1</sup> K <sup>-1</sup> at 300 K
Specific Heat Capacity	1003 J Kg <sup>-1</sup> K <sup>-1</sup>
Melting Point	1255 °C

## Mechanical Properties

Density	3.1766 g/cc
Knoop Hardness	415
Young Modulus	138 GPa
Shear Modulus	54.66 GPa
Poisson Ratio	0.276

## Magnesium Fluoride for 10mm Thickness

