

MgF₂ Data Sheet

| Physical Properties | | | |
|----------------------------|------------------------------------------------------------------------------------------------|------------------------|-----------------------------------------------|
| Density | 3.18 g/cm ³ | Young's Modulus | 138.5 GPa |
| Melting Point | 1255°C | Shear Modulus | 54.66 GPa |
| Thermal Conductivity | 0.3 W m ⁻¹ K ⁻¹ at 300K | Bulk Modulus | 101.32 GPa |
| Thermal Expansion | 13.7 x 10 ⁻⁶ /°C parallel c-axis 8.9 x 10 ⁻⁶ /°C perpendicular c-axis | Elastic Coefficient | C11=164 C12=53; C44=33.7 C13=63; C66=96 |
| Knoop Hardness | 415 with 100g indenter (kg/mm ²) | Apparent Elastic Limit | 49.6 MPa (7200 psi) |
| Specific Heat Capacity | 1003 J/(kg.K) | Poisson Ratio | 0.276 |
| Dielectric Constant | 1.87 at 1MHz parallel c-axis; 1.45 at 1MHz perpendicular c-axis | / | / |
| Chemical Properties | | | |
| Solubility | 0.0002 g/ 100g water at 20°C | | |
| Molecular Weight | 62.32 | | |
| Structure | Tetragonal Crystal | | |
| Cleavage Plane | (110) | | |
| Optical Properties | | | |
| Transmission Range | 110 nm to 7.5 μm | | |
| Transmittance | >90% at 193 nm to 6 μm | | |
| Refractive Index | No=1.37608; Ne=1.38771 (at 0.7μm) | | |
| Reflection Loss | 5.2% at 0.6 μm (both surfaces) | | |
| Residual Radiation Peak | 20 nm | | |
| Absorption Coefficient | 0.04 cm ⁻¹ at 2.7 μm | | |
| dn/dT | 2.3 x 10 ⁻⁶ /°C parallel c-axis 1.7 x 10 ⁻⁶ /°C perpendicular c-axis | | |
| Transmission | | | |

