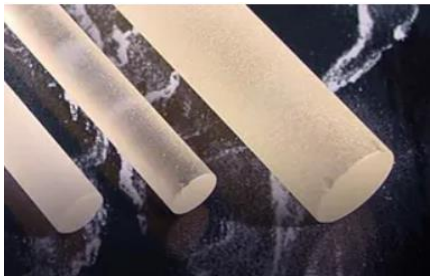
## KTF potassium terbium fluoride：

**KTF potassium terbium fluoride**

**KTF** crystal has lower absorption coefficient and thermo-optic coefficient. This crystal is very suitable for high-power Faraday rotator and optical isolator.



**Main features:**

Wide wavelength coverage: 500nm-3000nm

large crystal size

High coating threshold

good uniformity

**Material properties:**

| | |
|---|---|
| Crystalline orientation | Regular <100> |
| Diameter Tolerance | + 0.00/-0.0 5mm |
| Chamfer | ≦0. 15mm @ 45° |
| roll off | fine grinding |
| Perpendicularity | ≤ 10 ′ |
| Parallelism | ≤ 6 0″ |
| Face type | ≤λ/10 @633nm |
| surface finish | 10-5 |
| through wavefront error | ≤λ /4 /25.4mm @633nm |
| coating | A R , R ≦0.25% |

**TGG and KTF :**

| Material | TGG $Tb_3Ga_5O_{12}$ | KTF $KTb_3F_{10}$ |
|---|---|---|
| Lattice structure | cube | cube |
| Through the spectral range | 400-1500nm | 400-1500nm |
| Verdet constant, 1064nm | 39 | 36 |
| Refractive index, 1064nm | 1.944 | ~1.5 |
| Density (g/cc) | 7.2 | 5.86 |
| Absorption, 1064nm | ~0.16%/cm | ~0.02%/cm |
| Thermo-optic coefficient | $17.9 \times 10^{-6} K^{-1}$ | $\sim 1 \times 10^{-6} K^{-1}$ |
| nonlinear index of refraction | ~2 x 10-19 $m^2/W$ | $\sim 1 \times 10^{-20} m^2/W$ |
| Thermal conductivity | 7.4 | 1.67 |
| Thermal expansion×$10^{-6}$ ℃ | 7.3 | 13.7 |