

## Material

**Union Optic** can supply many optical materials, like colorless optical glasses, color glasses, infrared materials, UV materials and also optical crystals.

Usually, the material we used is Chinese material unless specified. If you can not confirm which material is the right one, please contact us.

Here is a list of the materials we can supply:

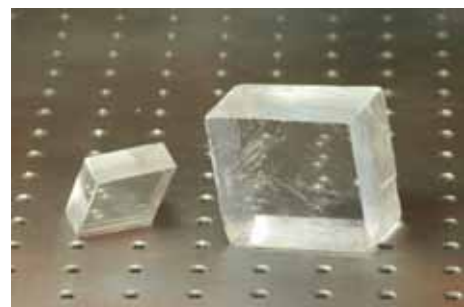
**Optical Glass:** BK7, other colorless optical glasses

**UV Material:** UV fused silica, UV CaF<sub>2</sub>, UV MgF<sub>2</sub>

**IR Material:** IR fused silica, IR CaF<sub>2</sub>, IR MgF<sub>2</sub>, Sapphire, Silicon, Germanium, ZnSe

**Crystals:** Calcite, YVO<sub>4</sub>, Quartz, LiNbO<sub>3</sub>, a-BBO

**All materials are RoHS compliant!**



Materials	Refractive Index	Transmission Range(um)	Thermal Expansion Coefficient(10 <sup>-6</sup> /K)	Density(g/cm <sup>3</sup> )
<b>BK7</b>	1.5164(588nm)	0.330-2.1	7.5	2.52
<b>Fused Silica</b>	1.4858(308nm)	0.185-2.5	0.58	2.20
<b>Quartz</b>	n <sub>o</sub> =1.5427 n <sub>e</sub> =1.5518 (633nm)	0.200-2.3	13.2  a; 7.1  c	2.65
<b>CaF<sub>2</sub></b>	1.399(5000nm)	0.170-7.8	18.85	3.18
<b>MgF<sub>2</sub></b>	n <sub>o</sub> =1.3836 n <sub>e</sub> =1.3957 (405nm)	0.120-7.0	13.7  a; 8.48  c	3.17
<b>Sapphire</b>	1.755(1000nm)	0.180-4.5	8.4	3.98
<b>Silicon</b>	3.426(5000nm)	1.2-7.0	2.55	2.33
<b>Germanium</b>	4.004(10000nm)	2.0-14.0	5.5	5.33
<b>ZnSe</b>	2.4028(10600nm)	0.55-20.0	7.6	5.27
<b>YVO<sub>4</sub></b>	n <sub>o</sub> =1.9500 n <sub>e</sub> =2.1554 (1300nm)	0.400-5.0	4.43  a; 11.37  c	4.22
<b>Calcite</b>	n <sub>o</sub> =1.6557 n <sub>e</sub> =1.4852 (633nm)	0.210-2.3	5.68  a; 24.39  c	2.70
<b>a-BBO</b>	n <sub>o</sub> =1.6776 n <sub>e</sub> =1.5534 (532nm)	0.190-3.5	4.0  a; 36.0  c	3.85
<b>LiNbO<sub>3</sub></b>	n <sub>o</sub> =2.2863 n <sub>e</sub> =2.2027 (633nm)	0.370-4.5	14.8  a; 4.1  c	4.64