

## TeO<sub>2</sub> (Tellurium Oxide)

Crystal symmetry: 422

Density: 6.02 g/cm<sup>3</sup>

Optical spectral range: 0.35 - 5 μm

Elastic constants  $c_{ij}$  (10<sup>11</sup> dyn/cm<sup>2</sup> or 10<sup>10</sup> Pa):

5.59	5.13	2.17	0	0	0
5.13	5.59	2.17	0	0	0
2.17	2.17	10.56	0	0	0
0	0	0	2.67	0	0
0	0	0	0	2.67	0
0	0	0	0	0	6.62

Photoelastic constants  $p_{ij}$ :

0.0074	0.187	0.34	0	0	0
0.187	0.0074	0.34	0	0	0
0.0905	0.0905	0.24	0	0	0
0	0	0	-0.17	0	0
0	0	0	0	-0.17	0
0	0	0	0	0	-0.0463

Sound velocity:

Direction	Polarization	$v$ (10 <sup>5</sup> cm/s)
[100]	[100], L	3.051
[100]	[010], S	3.317
[100]	[001], S	2.1
[001]	[001], L	4.202
[001]	arb, S	2.104
[110]	[110], L	4.663
[110]	[1-10], S	0.616
[110]	[001], S	2.1
[101]	[-101], S	2.101

Refraction indices:

$\lambda$ (μm)	$n_x$	$n_y$	$n_z$
0.4047	2.4315	2.4315	2.6167
0.4358	2.3834	2.3834	2.5583
0.4678	2.3478	2.3478	2.5164
0.48	2.3366	2.3366	2.5036
0.5086	2.315	2.315	2.4779
0.5461	2.2931	2.2931	2.452
0.5893	2.2738	2.2738	2.4295
0.6328	2.2597	2.2597	2.4119
0.6438	2.2562	2.2562	2.4086

0.69	2.245	2.245	2.3955
0.8	2.226	2.226	2.373
1	2.208	2.208	2.352