

Material Properties Overview

Material	Transmission Range	Index of Refraction	Typical Scratch/Dig	Surface Figure	Laser Damage Threshold	CTE (/°C)	Knoop Hardness
MgF ₂	0.13 - 8.0	1.41 @ 0.27 μm	40-20	λ/20	High	8.04E-06/ 1.30E-05	415
CaF ₂	0.15 - 8.0	1.501 @ 0.193 μm	40-20	λ/20	High	1.89E-05	158
UV Fused Silica	0.18 - 2.0	1.46 @ 0.55 μm	10-5	λ/20	High	5.50E-07	522
Suprasil 1	0.2 - 2.0	1.51 @ 0.248 μm	10-5	λ/20	High	5.50E-07	590
Crystal Quartz	0.2 - 2.0	1.55 @ 0.63 μm	10-5	λ/20	High	7.64E-06/ 1.4E-05	820
Optical Crown	0.2 - 2.0	1.52 @ 0.55 μm	20-10	λ/20	Low	5.0E-06	610
Infrasil 301	0.25 - 2.0	1.46 @ 0.63 μm	10-5	λ/20	High	5.80E-07	590
N-BK7	0.35 - 2.0	1.52 @ 0.55 μm	10-5	λ/20	Medium	7.10E-06	610
N-BAK1	0.25 - 2.2	1.57 @ 0.63 μm	10-5	λ/20	Medium	7.60E-06	530
N-SF10 (SF10)	0.4 - 2.4	1.73 @ 0.55 μm	10-5	λ/20	Medium	9.40E-06	540
Calcite	0.4 - 2.5	1.66 @ 0.55 μm	40-20	λ/20	Low	4.6E-06/ 8.3E-05	75
N-LaK21	0.37 - 2.0	1.64 @ 0.55 μm	10-5	λ/20	Medium	6.80E-06	600
N-SF2 (SF2)	0.37 - 2.3	1.65 @ 0.55 μm	10-5	λ/20	Medium	6.70E-06	539
N-SF11	0.5 - 2.5	1.79 @ 0.55 μm	10-5	λ/20	Medium	6.10E-06	450
N-F2 (F2)	0.4 - 2.0	1.62 @ 0.55 μm	10-5	λ/20	Medium	8.20E-06	420
Zerodur	0.5 - 2.5	1.55 @ 0.55 μm	10-5	λ/20	High	5.00E-09	620
Sapphire	0.3 - 5.0	1.77 @ 0.55 μm	40-20	λ/20	High	7.70E-06	1370
Silicon	1.0 - 10	3.42 @ 10.6 μm	20-10	λ/20	High	4.50E-06	1100
ZnS	8 - 12	2.20 @ 10.6 μm	20-10	λ/20	Medium	6.50E-06	1780
ZnS (MS)	0.4 - 12	2.20 @ 10.6 μm	40-20	λ/20	Medium	6.50E-06	160
AMTIR	0.8 - 14	2.50 @ 10.6 μm	40-20	λ/20	Medium	1.2E-05	170
GaAs	1.5 - 15	3.29 @ 0.55 μm	40-20	λ/20	Medium	5.40E-06	7500
ZnSe	0.5 - 20	2.40 @ 10.6 μm	40-20	λ/20	High	7.60E-06	112
Germanium	2.0 - 20	4.00 @ 10.6 μm	20-10	λ/20	Medium	5.70E-06	692