

※レンズ成形難易度が特に高い硝材です。

Optical Glass for Precision Molding

Moldability of this glass material is classified as "especially difficult".

K-PSFn202

020215 K-PSFn202	nd	2.01960	νd	21.5	nF-nC	0.04753
	ne	2.03076	νe	21.3	nF'-nC'	0.04846

屈折率 Refractive Indices		
n1548	1548.1	1.95955
n1309	1308.5	1.96547
nt	1014.0	1.97568
nA'	768.2	1.99201
nr	706.5	1.99892
nC	656.3	2.00615
nC'	643.9	2.00823
nD	589.3	2.01920
nd	587.6	2.01960
ne	546.1	2.03076
nF	486.1	2.05368
nF'	480.0	2.05669
ng	435.8	2.08394
nh	404.7	2.11217
ni	365.0	

分散式の常数 Constants of Dispersion Formula	
A0	3.8508789
A1	$-1.6529344 \times 10^{-2}$
A2	6.6096066×10^{-2}
A3	5.8480521×10^{-3}
A4	$-5.0559840 \times 10^{-4}$
A5	7.6558669×10^{-5}

dn/dTの分散常数 Constants of Dispersion dn/dT abs.	
D0	1.41×10^{-5}
D1	2.66×10^{-8}
D2	-5.37×10^{-10}
E0	2.35×10^{-6}
E1	1.36×10^{-9}
$\lambda_{TK} (\mu m)$	0.301

部分分散および部分分散比 Partial Dispersions and Relative Partial Dispersions			
nC-nt	nC-nA'	nd-nC	ne-nC
0.03047	0.01414	0.01345	0.02461
$\theta_{C,t}$	$\theta_{C,A'}$	$\theta_{d,C}$	$\theta_{e,C}$
0.641	0.297	0.283	0.518
ng-nd	ng-nF	nh-ng	ni-ng
0.06434	0.03026	0.02823	
$\theta_{g,d}$	$\theta_{g,F(\Delta)}$	$\theta_{h,g}$	$\theta_{i,g}$
1.354	0.637 (0.0290)	0.594	
nC'-nt	ne-nC'	nF'-ne	ni-nF'
0.03255	0.02253	0.02593	
$\theta'_{C,t}$	$\theta'_{e,C'}$	$\theta'_{F',e}$	$\theta'_{i,F'}$
0.672	0.465	0.535	

機械的性質 Mechanical Properties	熱的性質 Thermal Properties
ヌープ硬さ Hk Knoop Hardness 484 (5)	転移点 Tg (°C) Transformation Point 460
ビッカース硬さ Hv Vickers Hardness 495	屈伏点 At (°C) Yielding Point 486
摩耗度 Ha Abrasion 234	線膨張係数 $\alpha (\times 10^{-7} \text{°C}^{-1})$ Thermal Expansion 74
ヤング率 E ($\times 10^8 \text{N}\cdot\text{m}^{-2}$) Young's Modulus 851	(-30~+70°C) 74 (+100~+300°C) 86
剛性率 G ($\times 10^8 \text{N}\cdot\text{m}^{-2}$) Modulus of Rigidity 337	熱伝導率 $\lambda (\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1})$ Thermal Conductivity 0.619
ポアソン比 σ Poisson Ratio 0.262	比熱 Cp ($\text{J}\cdot\text{kg}^{-1}\cdot\text{K}^{-1}$) Specific Heat 354

化学的性質 Chemical Properties	その他 Other Properties
耐水性(粉末法) RW Water Resistance 1	泡 B Bubbles
耐酸性(粉末法) RA Acid Resistance 4	着色度 C Coloration (44)/40
耐久性(表面法) DW Chemical Durability 1	比重 S.g Specific Gravity 6.22
備考 Remarks	生産頻度 PF Production frequency

内部透過率 τ Internal Transmittance		
$\lambda(\text{nm})$	3mm	10mm
270		
280		
290		
300		
310		
320		
330		
340		
350		
360		
370		
380		
390	0.17 ₂	
400	0.53 ₇	0.12 ₆
420	0.90 ₉	0.72 ₇
440	0.97 ₅	0.91 ₉
460	0.98 ₈	0.96 ₁
480	0.99 ₄	0.98 ₀
500	0.99 ₆	0.98 ₇
550	0.99 ₇	0.99 ₂
600	0.99 ₇	0.99 ₂
650	0.99 ₈	0.99 ₅
700	0.99 ₈	0.99 ₆
800	0.99 ₈	0.99 ₆
1060	0.99 ₈	0.99 ₆
1500	0.99 ₈	0.99 ₅
2000	0.98 ₈	0.96 ₁

屈折率の温度係数 Temperature Coefficients of Refractive Index						
(°C)	(dn/dT)rel. ($\times 10^{-6} \text{°C}^{-1}$)			(dn/dT)abs. ($\times 10^{-6} \text{°C}^{-1}$)		
	1548.1	d	g	1548.1	d	g
-40/-20	8.7	15.0	26.7	6.1	12.3	23.8
0/+20	12.4	19.2	31.6	10.4	17.2	29.5
+40/+60	12.6	19.7	32.7	11.1	18.1	31.1