

※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-PSFn2

002206 K-PSFn2	nd	2.00170	νd	20.6	nF-nC	0.04852
	ne	2.01310	νe	20.5	nF'-nC'	0.04947

屈折率 Refractive Indices		
n1548	1548.1	1.94154
n1309	1308.5	1.94708
nt	1014.0	1.95709
nA'	768.2	1.97365
nr	706.5	1.98065
nC	656.3	1.98800
nC'	643.9	1.99011
nD	589.3	2.00129
nd	587.6	2.00170
ne	546.1	2.01310
nF	486.1	2.03652
nF'	480.0	2.03958
ng	435.8	2.06726
nh	404.7	2.09566
ni	365.0	

分散式の常数 Constants of Dispersion Formula	
A0	3.7699503
A1	$-1.3004151 \times 10^{-2}$
A2	7.2310519×10^{-2}
A3	3.5123072×10^{-3}
A4	$-1.0361594 \times 10^{-5}$
A5	3.8615781×10^{-5}

dn/dTの分散常数 Constants of Dispersion dn/dT abs.	
D0	8.11×10^{-6}
D1	2.15×10^{-8}
D2	-1.06×10^{-10}
E0	2.16×10^{-6}
E1	2.01×10^{-9}
$\lambda_{TK} (\mu m)$	0.291

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
0.03091	0.01435	0.01370	0.02510
$\theta_{C,t}$	$\theta_{C,A'}$	$\theta_{d,C}$	$\theta_{e,C}$
0.637	0.296	0.282	0.517
ng-nd	ng-nF	nh-ng	ni-ng
0.06556	0.03074	0.02840	
$\theta_{g,d}$	$\theta_{g,F(\Delta)}$	$\theta_{h,g}$	$\theta_{i,g}$
1.351	0.634 (0.0241)	0.585	
nC'-nt	ne-nC'	nF'-ne	ni-nF'
0.03302	0.02299	0.02648	
$\theta'_{C',t}$	$\theta'_{e,C'}$	$\theta'_{F',e}$	$\theta'_{i,F'}$
0.667	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 392 (4)	転移点 Tg (°C) Transformation Point 480
ビッカース硬さ Hv Vickers Hardness 426	屈伏点 At (°C) Yielding Point 514
摩耗度 Ha Abrasion 361	線膨張係数 $\alpha (\times 10^{-7} \text{°C}^{-1})$ Thermal Expansion
ヤング率 E ($\times 10^8 \text{N}\cdot\text{m}^{-2}$) Young's Modulus 747	(-30~+70°C) 73 (+100~+300°C) 92
剛性率 G ($\times 10^8 \text{N}\cdot\text{m}^{-2}$) Modulus of Rigidity 299	熱伝導率 $\lambda (\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1})$ Thermal Conductivity 0.664
ポアソン比 σ Poisson Ratio 0.250	比熱 Cp ($\text{J}\cdot\text{kg}^{-1}\cdot\text{K}^{-1}$) Specific Heat 404

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 1	着色度 C Coloration (50)/40
耐久性(表面法) DW Chemical Durability 1	比重 S.g Specific Gravity 5.48
備考 Remarks Solarization	生産頻度 PF Production frequency C

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	0.11 ₉	
390	0.33 ₃	0.02 ₅
400	0.53 ₃	0.12 ₂
420	0.76 ₈	0.41 ₅
440	0.87 ₀	0.62 ₈
460	0.91 ₅	0.74 ₄
480	0.94 ₁	0.81 ₇
500	0.95 ₉	0.87 ₁
550	0.98 ₄	0.94 ₈
600	0.98 ₅	0.95 ₂
650	0.98 ₆	0.95 ₄
700	0.99 ₀	0.96 ₇
800	0.99 ₆	0.98 ₉
1060	0.99 ₈	0.99 ₃
1500	0.99 ₈	0.99 ₃
2000	0.99 ₄	0.98 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	6.9	12.2	21.7	4.3	9.5	18.8
0/+20	8.0	13.9	24.1	6.1	11.9	22.0
+40/+60	8.7	15.0	26.0	7.2	13.4	24.4