

※レンズ成形難易度が特に高い硝材です。

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

K-PSFn1

Optical Glass for Precision Molding

907212 K-PSFn1	nd	1.90680	$\nu d$	21.2	nF-nC	0.04287
	ne	1.91689	$\nu e$	21.0	nF'-nC'	0.04369

屈折率 Refractive Indices		
n1548	1548.1	1.85156
n1309	1308.5	1.85727
nt	1014.0	1.86687
nA'	768.2	1.88192
nr	706.5	1.88815
nC	656.3	1.89467
nC'	643.9	1.89655
nD	589.3	1.90644
nd	587.6	1.90680
ne	546.1	1.91689
nF	486.1	1.93754
nF'	480.0	1.94024
ng	435.8	1.96461
nh	404.7	1.98970
ni	365.0	

分散式の常数 Constants of Dispersion Formula	
A0	3.4407637
A1	$-1.5750622 \times 10^{-2}$
A2	$5.9024249 \times 10^{-2}$
A3	$3.5647556 \times 10^{-3}$
A4	$-1.2641103 \times 10^{-4}$
A5	$4.0309245 \times 10^{-5}$

dn/dTの分散常数 Constants of Dispersion dn/dT abs.	
D0	$-3.11 \times 10^{-6}$
D1	$1.75 \times 10^{-8}$
D2	$-2.81 \times 10^{-10}$
E0	$1.25 \times 10^{-6}$
E1	$1.62 \times 10^{-9}$
$\lambda_{TK} (\mu m)$	0.307

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
0.02780	0.01275	0.01213	0.02222
$\theta_{C,t}$	$\theta_{C,A'}$	$\theta_{d,C}$	$\theta_{e,C}$
0.648	0.297	0.283	0.518
ng-nd	ng-nF	nh-ng	ni-ng
0.05781	0.02707	0.02509	
$\theta_{g,d}$	$\theta_{g,F(\Delta)}$	$\theta_{h,g}$	$\theta_{i,g}$
1.348	0.631 (0.0225)	0.585	
nC'-nt	ne-nC'	nF'-ne	ni-nF'
0.02968	0.02034	0.02335	
$\theta'_{C,t}$	$\theta'_{e,C'}$	$\theta'_{F',e}$	$\theta'_{i,F'}$
0.679	0.466	0.534	

機械的性質 Mechanical Properties	熱的性質 Thermal Properties
ヌープ硬さ Hk Knoop Hardness 444 (4)	転移点 Tg (°C) Transformation Point 498
ビッカース硬さ Hv Vickers Hardness 441	屈伏点 At (°C) Yielding Point 543
摩耗度 Ha Abrasion 310	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 886	(-30~+70°C) 74 (+100~+300°C) 102
剛性率 G ( $\times 10^8 \text{N}\cdot\text{m}^{-2}$ ) Modulus of Rigidity 359	熱伝導率 $\lambda (\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1})$ Thermal Conductivity 0.811
ポアソン比 $\sigma$ Poisson Ratio 0.233	比熱 Cp ( $\text{J}\cdot\text{kg}^{-1}\cdot\text{K}^{-1}$ ) Specific Heat 546

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 (49)/39
耐久性(表面法) DW Chemical Durability 1	比重 S.g Specific Gravity 4.15
備考 Remarks Solarization	生産頻度 PF Production frequency B

内部透過率 $\tau$ Internal Transmittance		
$\lambda(\text{nm})$	3mm	10mm
270		
280		
290		
300		
310		
320		
330		
340		
350		
360		
370	0.086	
380	0.225	
390	0.495	0.096
400	0.699	0.303
420	0.876	0.643
440	0.935	0.801
460	0.960	0.873
480	0.972	0.910
500	0.980	0.935
550	0.992	0.973
600	0.996	0.988
650	0.997	0.990
700	0.997	0.992
800	0.998	0.994
1060	0.999	0.999
1500	0.998	0.995
2000	0.995	0.984

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	-1.8	0.8	5.9	-4.3	-1.8	3.2
0/+20	-0.2	2.8	8.7	-2.0	0.9	6.7
+40/+60	-0.1	3.2	9.7	-1.5	1.8	8.2