

※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-PSFn214P

144178 K-PSFn214P	nd	2.14400	ν_d	17.8	nF-nC	0.06443
	ne	2.15905	ν_e	17.6	nF'-nC'	0.06585

屈折率 Refractive Indices		
n1548	1548.1	2.06810
n1309	1308.5	2.07451
nt	1014.0	2.08666
nA'	768.2	2.10750
nr	706.5	2.11653
nC	656.3	2.12607
nC'	643.9	2.12882
nD	589.3	2.14345
nd	587.6	2.14400
ne	546.1	2.15905
nF	486.1	2.19050
nF'	480.0	2.19467
ng	435.8	2.23296
nh	404.7	
ni	365.0	

分散式の常数 Constants of Dispersion Formula	
A0	4.2694007
A1	$-1.3941316 \times 10^{-2}$
A2	9.5671794×10^{-2}
A3	6.5505527×10^{-3}
A4	$-2.8211750 \times 10^{-4}$
A5	9.8041281×10^{-5}

dn/dTの分散常数 Constants of Dispersion dn/dT abs.	
D0	1.59×10^{-5}
D1	3.02×10^{-8}
D2	-1.86×10^{-10}
E0	3.53×10^{-6}
E1	1.81×10^{-9}
$\lambda_{TK} (\mu m)$	0.287

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
0.03941	0.01857	0.01793	0.03298
$\theta_{C,t}$	$\theta_{C,A'}$	$\theta_{d,C}$	$\theta_{e,C}$
0.612	0.288	0.278	0.512
ng-nd	ng-nF	nh-ng	ni-ng
0.08896	0.04246		
$\theta_{g,d}$	$\theta_{g,F(\Delta)}$	$\theta_{h,g}$	$\theta_{i,g}$
1.381	0.659 (0.0448)		
nC'-nt	ne-nC'	nF'-ne	ni-nF'
0.04216	0.03023	0.03562	
$\theta'_{C,t}$	$\theta'_{e,C'}$	$\theta'_{F,e}$	$\theta'_{i,F'}$
0.640	0.459	0.541	

機械的性質 Mechanical Properties	熱的性質 Thermal Properties
ヌープ硬さ Hk Knoop Hardness 416 (4)	転移点 Tg (°C) Transformation Point 427
ビッカース硬さ Hv Vickers Hardness 409	屈伏点 At (°C) Yielding Point 452
摩耗度 Ha Abrasion 300	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 776	(-30~+70°C) 81 (+100~+300°C) 99
剛性率 G ($\times 10^8 \text{N}\cdot\text{m}^{-2}$) Modulus of Rigidity 305	熱伝導率 $\lambda (\text{W}\cdot\text{m}^{-1}\cdot\text{K}^{-1})$ Thermal Conductivity 0.602
ポアソン比 σ Poisson Ratio 0.272	比熱 Cp ($\text{J}\cdot\text{kg}^{-1}\cdot\text{K}^{-1}$) Specific Heat 309

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 3	着色度 C Coloration (52)/42
耐久性(表面法) DW Chemical Durability 1	比重 S.g Specific Gravity 7.07
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		
400		
420	0.37 ₀	0.03 ₆
440	0.71 ₄	0.32 ₆
460	0.84 ₄	0.56 ₉
480	0.90 ₆	0.72 ₀
500	0.94 ₇	0.83 ₅
550	0.99 ₁	0.97 ₂
600	0.99 ₅	0.98 ₅
650	0.99 ₅	0.98 ₅
700	0.99 ₅	0.98 ₆
800	0.99 ₆	0.98 ₇
1060	0.99 ₈	0.99 ₇
1500	0.99 ₈	0.99 ₈
2000	0.99 ₅	0.98 ₄

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	13.0	23.2		10.3	20.3	
0/+20	15.3	26.1		13.3	23.9	
+40/+60	16.5	27.7		14.9	26.1	