

SK-1300 Series

Glass Data Sheet

Code(d) **459678**

Code(e) **460677**

Refractive Index n_d	1.45857 1.458567	Abbe Number v_d	67.8 67.84	Dispersion n_F-n_C	0.00676 0.006760
Refractive Index n_e	1.460181	Abbe Number v_e	67.68	Dispersion $n_F-n_{C'}$	0.006799

Refractive Indices(at 25°C,Air,1013hPa)		
$\lambda(\mu m)$		
n_{2325}	2.32542	1.43307
n_{1970}	1.97009	1.43864
n_{1530}	1.52958	1.44438
n_{1129}	1.12864	1.44898
n_t	1.01398	1.45035
n_s	0.85211	1.45257
$n_{A'}$	0.76819	1.45399
n_r	0.70652	1.45525
n_C	0.65627	1.45647
$n_{C'}$	0.64385	1.45681
n_{He-Ne}	0.63280	1.45712
n_D	0.58929	1.45851
n_d	0.58756	1.45857
n_e	0.54607	1.46018
n_F	0.48613	1.46323
$n_{F'}$	0.47999	1.46361
n_{He-Cd}	0.44157	1.46633
n_g	0.435835	1.46680
n_h	0.404656	1.46972
n_i	0.365015	1.47465
n_{KrF^*}	0.24850	1.50840
n_{ArF^*}	0.19330	1.56041

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0406
$\Delta\theta_{C,A'}$	0.0085
$\Delta\theta_{g,d}$	-0.0063
$\Delta\theta_{g,F}$	-0.0040
$\Delta\theta_{i,g}$	0.0042

Constants of Dispersion Formula	
A_1	7.92122197E-01
A_2	3.12281689E-01
A_3	9.14368121E-01
B_1	5.26428733E-03
B_2	1.47301780E-02
B_3	9.98720100E+01

Other Properties	
Bubble Quality Group	1
Specific Gravity	2.20
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative (10-6/°C)						
	t	C'	d	e	F'	g	i
-40~-20	8.7	9.0	9.1	9.2	9.3	9.5	10.2
-20~0	8.9	9.1	9.2	9.3	9.5	9.7	10.3
0~20	9.0	9.4	9.4	9.5	9.7	9.9	10.5
20~40	9.1	9.5	9.6	9.7	9.9	10.1	10.7
40~60	9.4	9.7	9.8	9.9	10.1	10.3	11.0

Partial Dispersions	
n_C-n_t	0.006122
$n_C-n_{A'}$	0.002478
n_d-n_C	0.002097
n_e-n_C	0.003711
n_g-n_d	0.008230
n_g-n_F	0.003567
n_h-n_g	0.002925
n_i-n_g	0.007850
n_C-n_t	0.006459
$n_e-n_{C'}$	0.003374
n_F-n_e	0.003425
$n_i-n_{F'}$	0.011041

Thermal Properties	
Strain Point StP (°C)	1060
Annealing Point AP (°C)	1160
Softening Point SP (°C)	1600
Expansion Coefficients (+0~+200°C)	5.5
α (10-7/°C) (+100~+300°C)	-
Thermal Conductivity k (W/m•K)	1.4
Specific heat capacity c (J/kg•K)	734
Thermal diffusivity (10-7 m²/s)	8.05

Mechanical Properties	
Young's Modulus E (10⁸N/m²)	726
Rigidity Modulus G (10⁸N/m²)	309
Poisson's Ratio σ	0.17
Knoop Hardness Hk[Class]	650 7
Abrasion Aa	51
Photoelastic Constant β (nm/cm/10⁵Pa)	3.5

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	-
Acid Resistance(Surface) Group SR	1
Phosphate Resistance PR	-

Electrical Properties	
Dielectric constant ϵ	4.0
Dielectric tangent $\tan\delta$	0.0004
Volume resistivity($\Omega\cdot cm$)	>1E+16

Impurities	
OH content (ppm)	<200
Cl content (ppm)	<1

Relative Partial Dispersions	
$\theta_{C,t}$	0.9056
$\theta_{C,A'}$	0.3666
$\theta_{d,C}$	0.3102
$\theta_{e,C}$	0.5490
$\theta_{g,d}$	1.2175
$\theta_{g,F}$	0.5277
$\theta_{h,g}$	0.4327
$\theta_{i,g}$	1.1612
$\theta_{C',t}$	0.9500
$\theta'_{e,C'}$	0.4962
$\theta'_{F',e}$	0.5038
$\theta'_{i,F}$	1.6239

Coloring			
λ_{80}	~165	λ_5	~165
λ_{70}	~165		

~165:Less than 165nm

Internal Transmittance	
$\lambda(nm)$	$\tau 10mm$
172*	0.983
193*	0.997
248*	0.999~
250	0.999~
260	0.999~
270	0.999~
280	0.999~
290	0.999~
300	0.999~
320	0.999~
340	0.999~
360	0.999~
365*	0.999~
380	0.999~
400	0.999~
450	0.999~
500	0.999~
550	0.999~
587*	0.999~
600	0.999~
650	0.999~
700	0.999~
800	0.999~
900	0.999~
1000	0.999~
1129*	0.999~
1200	0.999~
1400	0.998
1530*	0.999~
1600	0.999~
1800	0.999~
1970*	0.999~
2000	0.999~
2326*	0.994
2400	0.991
2500	0.982

0.999~:better than 0.999

*Precision Measurements

Rev.G DATE 2025/4/18