

S-NSL36

Code(d) **517524**

Code(e) **520522**

Refractive Index n_d	1.51742 1.517417	Abbe Number v_d	52.4 52.43	Dispersion n_F-n_C	0.00987 0.009869
Refractive Index n_e	1.519765	Abbe Number v_e	52.14	Dispersion n_F-n_C	0.009968

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.49004
n_{1970}	1.97009	1.49501
n_{1530}	1.52958	1.50033
n_{1129}	1.12864	1.50501
n_t	1.01398	1.50656
n_s	0.85211	1.50924
$n_{A'}$	0.76819	1.51108
n_r	0.70652	1.51276
n_C	0.65627	1.51444
$n_{C'}$	0.64385	1.51492
$n_{\text{He-Ne}}$	0.6328	1.51536
n_D	0.58929	1.51733
n_d	0.58756	1.51742
n_e	0.54607	1.51976
n_F	0.48613	1.52431
$n_{F'}$	0.47999	1.52488
$n_{\text{He-Cd}}$	0.44157	1.52907
n_g	0.435835	1.52980
n_h	0.404656	1.53444
n_i	0.365015	1.54252

Partial Dispersions	
n_C-n_t	0.007887
$n_C-n_{A'}$	0.003365
n_d-n_C	0.002973
n_e-n_C	0.005321
n_g-n_d	0.012387
n_g-n_F	0.005491
n_h-n_g	0.004635
n_i-n_g	0.012715
n_C-n_t	0.008359
$n_e-n_{C'}$	0.004849
$n_{F'}-n_e$	0.005119
$n_i-n_{F'}$	0.017635

Relative Partial Dispersions	
$\theta_{C,t}$	0.7992
$\theta_{C,A'}$	0.3410
$\theta_{d,C}$	0.3012
$\theta_{e,C}$	0.5392
$\theta_{g,d}$	1.2551
$\theta_{g,F}$	0.5564
$\theta_{h,g}$	0.4697
$\theta_{i,g}$	1.2884
$\theta'_{C,t}$	0.8386
$\theta'_{e,C'}$	0.4865
$\theta'_{F',e}$	0.5135
$\theta'_{i,F}$	1.7692

Thermal Properties	
Strain Point StP (°C)	429
Annealing Point AP (°C)	465
Transformation Temperature Tg (°C)	464
Yield Point At (°C)	522
Softening Point SP (°C)	655
Expansion Coefficients (-30~+70°C)	80
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	93
Thermal Conductivity k (W/m-K)	1.089

Coloring			
λ_{80}	36	λ_5	34
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	0.18
350	0.57
360	0.81
370	0.917
380	0.960
390	0.980
400	0.989
420	0.995
440	0.996
460	0.997
480	0.998
500	0.998
550	0.999
600	0.999
650	0.998
700	0.998
800	0.999
900	0.998
1000	0.998
1200	0.998
1400	0.996
1600	0.994
1800	0.978
2000	0.950
2200	0.89
2400	0.86

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0065
$\Delta\theta_{C,A'}$	0.0016
$\Delta\theta_{g,d}$	-0.0007
$\Delta\theta_{g,F}$	-0.0002
$\Delta\theta_{i,g}$	0.0024

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	640
Rigidity Modulus G (10^8N/m^2)	281
Poisson's Ratio σ	0.139
Knoop Hardness Hk[Class]	480 5
Abrasion Aa	103
Photoelastic Constant β (nm/cm/ 10^5Pa)	2.82

Constants of Dispersion Formula	
A_1	1.09666153E+00
A_2	1.68990073E-01
A_3	1.20580827E+00
B_1	6.67491123E-03
B_2	3.36095450E-02
B_3	1.41668738E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	1
Acid Resistance(Surface) Group SR	1.0
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	B
Specific Gravity d	2.46
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative ($10^{-6}/^\circ\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	1.8	2.2	2.2	2.3	2.5	2.8	3.2
-20~0	1.8	2.2	2.2	2.3	2.5	2.9	3.3
0~20	1.8	2.2	2.3	2.4	2.6	2.9	3.3
20~40	1.9	2.3	2.3	2.4	2.6	3.0	3.4
40~60	1.9	2.3	2.3	2.5	2.7	3.1	3.5
60~80	1.9	2.3	2.3	2.5	2.7	3.1	3.6