

S-LAH79

Code(d) **003283**

Code(e) **011281**

Refractive Index n_d	2.00330 2.003300	Abbe Number v_d	28.3 28.27	Dispersion n_F-n_C	0.03549 0.035486
Refractive Index n_e	2.011689	Abbe Number v_e	28.07	Dispersion n_F-n_C'	0.036041

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.93904
n_{1970}	1.97009	1.94642
n_{1530}	1.52958	1.95518
n_{1129}	1.12864	1.96486
n_t	1.01398	1.96873
n_s	0.85211	1.97630
$n_{A'}$	0.76819	1.98195
n_r	0.70652	1.98739
n_C	0.65627	1.99301
$n_{C'}$	0.64385	1.99461
$n_{\text{He-Ne}}$	0.6328	1.99613
n_D	0.58929	2.00299
n_d	0.58756	2.00330
n_e	0.54607	2.01169
n_F	0.48613	2.02850
$n_{F'}$	0.47999	2.03066
$n_{\text{He-Cd}}$	0.44157	2.04682
n_g	0.435835	2.04972
n_h	0.404656	2.06844
n_i	0.365015	

Partial Dispersions	
n_C-n_t	0.024281
$n_C-n_{A'}$	0.011059
n_d-n_C	0.010289
n_e-n_C	0.018678
n_g-n_d	0.046416
n_g-n_F	0.021219
n_h-n_g	0.018725
n_i-n_g	
n_C-n_t	0.025885
$n_e-n_{C'}$	0.017074
$n_{F'-n_e}$	0.018967
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6842
$\theta_{C,A'}$	0.3116
$\theta_{d,C}$	0.2899
$\theta_{e,C}$	0.5263
$\theta_{g,d}$	1.3080
$\theta_{g,F}$	0.5980
$\theta_{h,g}$	0.5277
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7182
$\theta'_{e,C'}$	0.4737
$\theta'_{F',e}$	0.5263
$\theta'_{i,F}$	

Thermal Properties	
Strain Point StP (°C)	
Annealing Point AP (°C)	
Transformation Temperature Tg (°C)	699
Yield Point At (°C)	731
Softening Point SP (°C)	
Expansion Coefficients (-30~+70°C)	60
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	71
Thermal Conductivity k (W/m-K)	0.957

Coloring			
λ_{80}		λ_5	37
λ_{70}	46		

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	
350	
360	
370	0.03
380	0.16
390	0.33
400	0.50
420	0.72
440	0.83
460	0.88
480	0.921
500	0.945
550	0.979
600	0.988
650	0.991
700	0.993
800	0.996
900	0.997
1000	0.997
1200	0.998
1400	0.998
1600	0.997
1800	0.994
2000	0.986
2200	0.966
2400	0.89

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0049
$\Delta\theta_{C,A'}$	0.0015
$\Delta\theta_{g,d}$	0.0020
$\Delta\theta_{g,F}$	0.0023
$\Delta\theta_{i,g}$	

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	1255
Rigidity Modulus G (10^8N/m^2)	484
Poisson's Ratio σ	0.297
Knoop Hardness Hk[Class]	700 7
Abrasion Aa	61
Photoelastic Constant β (nm/cm/ 10^5Pa)	1.89

Constants of Dispersion Formula	
A ₁	2.32557148E+00
A ₂	5.07967133E-01
A ₃	2.43087198E+00
B ₁	1.32895208E-02
B ₂	5.28335449E-02
B ₃	1.61122408E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	1.0
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	5.23
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	6.5	8.0	8.1	8.6	9.2	10.7	12.4
-20~0	6.7	8.2	8.3	8.9	9.5	11.1	12.9
0~20	6.9	8.5	8.6	9.2	9.8	11.5	13.4
20~40	7.0	8.7	8.9	9.4	10.1	11.9	13.8
40~60	7.2	9.0	9.1	9.7	10.4	12.2	14.3
60~80	7.4	9.2	9.4	10.0	10.7	12.6	14.8