

S-LAH55

Code(d) **835427**

Code(e) **839425**

Refractive Index n_d	1.83481 1.834807	Abbe Number v_d	42.7 42.71	Dispersion n_F-n_C	0.01954 0.019545
Refractive Index n_e	1.839453	Abbe Number v_e	42.47	Dispersion $n_F'-n_C'$	0.019767

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.78803
n_{1970}	1.97009	1.79558
n_{1530}	1.52958	1.80378
n_{1129}	1.12864	1.81144
n_t	1.01398	1.81413
n_s	0.85211	1.81903
$n_{A'}$	0.76819	1.82248
n_r	0.70652	1.82571
n_C	0.65627	1.82898
$n_{C'}$	0.64385	1.82990
$n_{\text{He-Ne}}$	0.6328	1.83076
n_D	0.58929	1.83464
n_d	0.58756	1.83481
n_e	0.54607	1.83945
n_F	0.48613	1.84852
$n_{F'}$	0.47999	1.84966
$n_{\text{He-Cd}}$	0.44157	1.85807
n_g	0.435835	1.85955
n_h	0.404656	1.86891
n_i	0.365015	1.88534

Partial Dispersions	
n_C-n_t	0.014841
$n_C-n_{A'}$	0.006490
n_d-n_C	0.005832
n_e-n_C	0.010478
n_g-n_d	0.024741
n_g-n_F	0.011028
n_h-n_g	0.009363
n_i-n_g	0.025790
$n_C'-n_t$	0.015762
$n_e-n_{C'}$	0.009557
$n_{F'}-n_e$	0.010210
$n_i-n_{F'}$	0.035675

Relative Partial Dispersions	
$\theta_{C,t}$	0.7593
$\theta_{C,A'}$	0.3321
$\theta_{d,C}$	0.2984
$\theta_{e,C}$	0.5361
$\theta_{g,d}$	1.2658
$\theta_{g,F}$	0.5642
$\theta_{h,g}$	0.4790
$\theta_{i,g}$	1.3195
$\theta'_{C,t}$	0.7974
$\theta'_{e,C'}$	0.4835
$\theta'_{F',e}$	0.5165
$\theta'_{i,F}$	1.8048

Thermal Properties	
Strain Point StP (°C)	642
Annealing Point AP (°C)	664
Transformation Temperature Tg (°C)	684
Yield Point At (°C)	711
Softening Point SP (°C)	734
Expansion Coefficients (-30~+70°C)	62
α (10 ⁻⁷ /°C) (+100~+300°C)	76
Thermal Conductivity k (W/m·K)	0.846

Coloring			
λ_{80}	40	λ_5	32
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	0.01
330	0.18
340	0.44
350	0.65
360	0.78
370	0.86
380	0.913
390	0.941
400	0.958
420	0.974
440	0.982
460	0.988
480	0.991
500	0.994
550	0.998
600	0.998
650	0.998
700	0.998
800	0.998
900	0.998
1000	0.999
1200	0.999
1400	0.996
1600	0.994
1800	0.985
2000	0.962
2200	0.89
2400	0.68

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0122
$\Delta\theta_{C,A'}$	0.0045
$\Delta\theta_{g,d}$	-0.0102
$\Delta\theta_{g,F}$	-0.0082
$\Delta\theta_{i,g}$	-0.0479

Mechanical Properties	
Young's Modulus E (10 ⁸ N/m ²)	1249
Rigidity Modulus G (10 ⁸ N/m ²)	482
Poisson's Ratio σ	0.296
Knoop Hardness Hk[Class]	750 7
Abrasion Aa	59
Photoelastic Constant β (nm/cm/10 ⁵ Pa)	1.31

Constants of Dispersion Formula	
A ₁	1.95615766E+00
A ₂	3.19216215E-01
A ₃	1.39173189E+00
B ₁	9.79338965E-03
B ₂	3.76836296E-02
B ₃	9.48775271E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	1
Acid Resistance(Surface) Group SR	4.0
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.73
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative (10 ⁻⁶ /°C)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	3.3	4.0	4.0	4.2	4.5	5.1	5.7
-20~0	3.4	4.1	4.1	4.4	4.6	5.3	6.0
0~20	3.5	4.2	4.3	4.5	4.8	5.5	6.2
20~40	3.6	4.4	4.5	4.7	5.0	5.7	6.4
40~60	3.7	4.5	4.6	4.9	5.2	5.9	6.7
60~80	3.8	4.7	4.8	5.0	5.4	6.1	6.9