

L-LAH84

Code(d) **808405**

Code(e) **813403**

Refractive Index n_d	1.80835 1.808350	Abbe Number ν_d	40.55	Dispersion n_F-n_C	0.019936
Refractive Index n_e	1.813086	Abbe Number ν_e	40.30	Dispersion n_F-n_C'	0.020178

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.76397
n_{1970}	1.97009	1.77059
n_{1530}	1.52958	1.77793
n_{1129}	1.12864	1.78505
n_t	1.01398	1.78765
n_s	0.85211	1.79245
$n_{A'}$	0.76819	1.79590
n_f	0.70652	1.79914
n_C	0.65627	1.80243
$n_{C'}$	0.64385	1.80336
$n_{\text{He-Ne}}$	0.6328	1.80424
n_D	0.58929	1.80818
n_d	0.58756	1.80835
n_e	0.54607	1.81309
n_F	0.48613	1.82237
$n_{F'}$	0.47999	1.82354
$n_{\text{He-Cd}}$	0.44157	1.83219
n_g	0.435835	1.83372
n_h	0.404656	1.84340
n_i	0.365015	1.86048

Constants of Dispersion Formula	
A_1	1.83606127E+00
A_2	3.41720032E-01
A_3	1.35280173E+00
B_1	9.81969903E-03
B_2	3.85636264E-02
B_3	1.07045530E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	51.3
Phosphate Resistance PR	2.2

Mechanical Properties	
Young's Modulus E (GPa)	111.6
Rigidity Modulus G (GPa)	42.8
Poisson's Ratio σ	0.303
Knoop Hardness Hk[Class]	640 * 6
Abrasion Aa	88

Partial Dispersions	
n_C-n_t	0.014785
$n_C-n_{A'}$	0.006535
n_d-n_C	0.005918
n_e-n_C	0.010654
n_g-n_d	0.025366
n_g-n_F	0.011348
n_h-n_g	0.009680
n_i-n_g	0.026762
n_C-n_t	0.015716
$n_e-n_{C'}$	0.009723
$n_{F'}-n_e$	0.010455
$n_i-n_{F'}$	0.036937

Relative Partial Dispersions	
$\theta_{C,t}$	0.7416
$\theta_{C,A'}$	0.3278
$\theta_{d,C}$	0.2968
$\theta_{e,C}$	0.5344
$\theta_{g,d}$	1.2724
$\theta_{g,F}$	0.5692
$\theta_{h,g}$	0.4856
$\theta_{i,g}$	1.3424
$\theta'_{C,t}$	0.7789
$\theta'_{e,C}$	0.4819
$\theta'_{F,e}$	0.5181
$\theta'_{i,F'}$	1.8306

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0047
$\Delta \theta_{C,A'}$	0.0028
$\Delta \theta_{g,d}$	-0.0081
$\Delta \theta_{g,F}$	-0.0067
$\Delta \theta_{i,g}$	-0.0431

Thermal Properties	
Strain Point StP (°C)	491
Annealing Point AP (°C)	515
Transformation Temperature Tg (°C)	527
Yield Point At (°C)	568
Softening Point SP (°C)	603
Expansion Coefficients (-30~+70°C)	64
α (10 ⁻⁷ K ⁻¹) (+100~+300°C)	79
Thermal Conductivity λ W/(m·K)	0.875

Coloring			
λ_{80}	400	λ_5	335
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	364	$\lambda_{0.05}$	336

CCI		
B	G	R
0.00	0.75	0.77

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	0.20
350	0.54
360	0.76
370	0.87
380	0.922
390	0.950
400	0.965
420	0.979
440	0.985
460	0.990
480	0.993
500	0.996
550	0.998
600	0.998
650	0.998
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.998
1600	0.997
1800	0.992
2000	0.975
2200	0.942
2400	0.79

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative (10 ⁻⁶ K ⁻¹)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	7.2	8.1	8.1	8.4	8.7	9.6	10.4
-20~ 0	7.1	8.1	8.1	8.4	8.8	9.7	10.6
0~20	7.1	8.1	8.2	8.5	8.7	9.8	10.7
20~40	7.1	8.1	8.2	8.5	8.9	9.8	10.8
40~60	7.2	8.2	8.3	8.6	9.0	10.0	11.0
60~80	7.3	8.4	8.5	8.8	9.3	10.3	11.3

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁹ Pa)	2.35
Specific Gravity d	4.62
Remarks	

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※The name of the glass type is the model number assigned based on the main components of the composition: large, medium, small refractive index and serial number.