

L-LAH94

Code(d) **861371**

Code(e) **867368**

Refractive Index n_d	1.86100 1.861000	Abbe Number ν_d	37.10	Dispersion n_F-n_C	0.023209
Refractive Index n_e	1.866504	Abbe Number ν_e	36.85	Dispersion $n_F-n_{C'}$	0.023517

Refractive Indices		
$\lambda(\mu m)$		
n_{2325}	2.32542	1.81215
n_{1970}	1.97009	1.81904
n_{1530}	1.52958	1.82677
n_{1129}	1.12864	1.83449
n_t	1.01398	1.83736
n_s	0.85211	1.84276
$n_{A'}$	0.76819	1.84667
n_r	0.70652	1.85038
n_C	0.65627	1.85416
$n_{C'}$	0.64385	1.85523
n_{He-Ne}	0.6328	1.85624
n_D	0.58929	1.86080
n_d	0.58756	1.86100
n_e	0.54607	1.86650
n_F	0.48613	1.87737
$n_{F'}$	0.47999	1.87875
n_{He-Cd}	0.44157	1.88899
n_g	0.435835	1.89080
n_h	0.404656	1.90238
n_i	0.365015	

Constants of Dispersion Formula	
A_1	2.00621420E+00
A_2	3.47029888E-01
A_3	1.41688382E+00
B_1	1.05499238E-02
B_2	4.45845013E-02
B_3	1.05995250E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	51.2
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E ($10^9 N/m^2$)	1121
Rigidity Modulus G ($10^9 N/m^2$)	430
Poisson's Ratio σ	0.305
Knoop Hardness Hk[Class]	660 7
Abrasion Aa	81
Photoelastic Constant β nm/(cm · $10^5 Pa$)	1.71

Partial Dispersions	
n_C-n_t	0.016800
$n_C-n_{A'}$	0.007490
n_d-n_C	0.006839
n_e-n_C	0.012343
n_g-n_d	0.029797
n_g-n_F	0.013427
n_h-n_g	0.011584
n_i-n_g	
n_C-n_t	0.017873
$n_e-n_{C'}$	0.011270
n_F-n_e	0.012247
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.7239
$\theta_{C,A'}$	0.3227
$\theta_{d,C}$	0.2947
$\theta_{e,C}$	0.5318
$\theta_{g,d}$	1.2839
$\theta_{g,F}$	0.5785
$\theta_{h,g}$	0.4991
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7600
$\theta'_{e,C'}$	0.4792
$\theta'_{F,e}$	0.5208
$\theta'_{i,F'}$	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0032
$\Delta\theta_{C,A'}$	0.0019
$\Delta\theta_{g,d}$	-0.0038
$\Delta\theta_{g,F}$	-0.0029
$\Delta\theta_{i,g}$	

Thermal Properties	
Strain Point StP (°C)	560
Annealing Point AP (°C)	583
Transformation Temperature Tg (°C)	593
Yield Point At (°C)	628
Softening Point SP (°C)	664
Expansion Coefficients (-30~+70°C)	62
α ($10^{-7}/°C$) (+100~+300°C)	77
Thermal Conductivity λ W/(m·K)	0.817

Coloring			
λ_{80}		λ_5	350
λ_{70}	390		

Internal transmission			
$\lambda_{0.80}$	385	$\lambda_{0.05}$	349

CCI		
B	G	R
0.00	1.80	1.88

Internal Transmittance	
$\lambda(nm)$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	0.06
360	0.31
370	0.58
380	0.75
390	0.85
400	0.908
420	0.957
440	0.975
460	0.983
480	0.989
500	0.993
550	0.998
600	0.998
650	0.999
700	0.999
800	0.999
900	0.998
1000	0.999
1200	0.999
1400	0.997
1600	0.996
1800	0.989
2000	0.970
2200	0.923
2400	0.74

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative ($10^{-6}/°C$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	5.4	6.4	6.4	6.7	7.1	8.0	9.0
-20~ 0	5.4	6.4	6.5	6.8	7.2	8.2	9.2
0~20	5.4	6.5	6.5	6.9	7.3	8.3	9.4
20~40	5.4	6.5	6.6	6.9	7.4	8.4	9.6
40~60	5.5	6.7	6.7	7.1	7.6	8.7	9.9
60~80	5.7	6.9	6.9	7.3	7.8	8.9	10.2

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.89
Remarks	

OHARA 17-04

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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.