

S-LAL61

Code(d) **741527**

Code(e) **744524**

Refractive Index n_d	1.74100	Abbe Number ν_d	52.64	Dispersion n_F-n_C	0.014078
	1.740999				
Refractive Index n_e	1.744354	Abbe Number ν_e	52.41	Dispersion n_F-n_C'	0.014203

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.70016
n_{1970}	1.97009	1.70787
n_{1530}	1.52958	1.71598
n_{1129}	1.12864	1.72297
n_t	1.01398	1.72525
n_s	0.85211	1.72918
$n_{A'}$	0.76819	1.73186
n_f	0.70652	1.73430
n_C	0.65627	1.73673
$n_{C'}$	0.64385	1.73741
$n_{\text{He-Ne}}$	0.6328	1.73804
n_D	0.58929	1.74087
n_d	0.58756	1.74100
n_e	0.54607	1.74435
n_F	0.48613	1.75080
$n_{F'}$	0.47999	1.75161
$n_{\text{He-Cd}}$	0.44157	1.75748
n_g	0.435835	1.75850
n_h	0.404656	1.76491
n_i	0.365015	1.77589

Constants of Dispersion Formula	
A_1	1.11073292E+00
A_2	8.59347773E-01
A_3	1.26707433E+00
B_1	4.64181248E-03
B_2	1.92989261E-02
B_3	8.73917698E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	1~2
Acid Resistance(Surface) Group SR	51.0
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (GPa)	119.0
Rigidity Modulus G (GPa)	46.1
Poisson's Ratio σ	0.291
Knoop Hardness Hk(Class)	720 * 7
Abrasion Aa	71

Partial Dispersions	
n_C-n_t	0.011481
$n_C-n_{A'}$	0.004871
n_d-n_C	0.004272
n_e-n_C	0.007627
n_g-n_d	0.017502
n_g-n_F	0.007696
n_h-n_g	0.006413
n_i-n_g	0.017393
n_C-n_t	0.012160
$n_e-n_{C'}$	0.006948
$n_{F'}-n_e$	0.007255
$n_i-n_{F'}$	0.024285

Relative Partial Dispersions	
$\theta_{C,t}$	0.8155
$\theta_{C,A'}$	0.3460
$\theta_{d,C}$	0.3035
$\theta_{e,C}$	0.5418
$\theta_{g,d}$	1.2432
$\theta_{g,F}$	0.5467
$\theta_{h,g}$	0.4555
$\theta_{i,g}$	1.2355
$\theta'_{C,t}$	0.8562
$\theta'_{e,C}$	0.4892
$\theta'_{F,e}$	0.5108
$\theta'_{i,F'}$	1.7099

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0218
$\Delta \theta_{C,A'}$	0.0063
$\Delta \theta_{g,d}$	-0.0122
$\Delta \theta_{g,F}$	-0.0096
$\Delta \theta_{i,g}$	-0.0487

Thermal Properties	
Strain Point StP (°C)	631
Annealing Point AP (°C)	646
Transformation Temperature Tg (°C)	653
Yield Point At (°C)	688
Softening Point SP (°C)	724
Expansion Coefficients (-30~+70°C)	57
α (10^{-7}K^{-1}) (+100~+300°C)	70
Thermal Conductivity λ W/(m·K)	0.861

Coloring			
λ_{80}	365	λ_5	280
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	358	$\lambda_{0.05}$	296

CCI		
B	G	R
0.00	0.58	0.59

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	0.02
300	0.07
310	0.15
320	0.27
330	0.43
340	0.59
350	0.72
360	0.82
370	0.89
380	0.935
390	0.958
400	0.971
420	0.982
440	0.988
460	0.991
480	0.994
500	0.996
550	0.997
600	0.997
650	0.997
700	0.998
800	0.998
900	0.998
1000	0.998
1200	0.998
1400	0.994
1600	0.994
1800	0.985
2000	0.959
2200	0.88
2400	0.62

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	3.3	3.7	3.7	3.9	4.0	4.4	4.8
-20~ 0	3.4	3.8	3.9	4.0	4.2	4.6	5.0
0~20	3.5	3.9	4.0	4.1	4.3	4.7	5.1
20~40	3.6	4.1	4.1	4.2	4.4	4.9	5.3
40~60	3.7	4.2	4.2	4.4	4.6	5.0	5.5
60~80	3.8	4.3	4.3	4.5	4.7	5.2	5.6

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁹ Pa)	1.55
Specific Gravity d	4.04
Remarks	

OHARA 23-05

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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.