S-LAH97

Code(d) **755523**
Code(e) **758521**

Refractive Index	n_d	**1.75500** 1.755000	Abbe Number	ν_d	**52.32**	Dispersion	n_F-n_C	**0.014431**
Refractive Index	n_e	1.758440	Abbe Number	ν_e	52.08	Dispersion	$n_{F'}$-$n_{C'}$	0.014562

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.71414
n_{1970}	1.97009	1.72171
n_{1530}	1.52958	1.72970
n_{1129}	1.12864	1.73666
n_t	1.01398	1.73895
n_s	0.85211	1.74293
$n_{A'}$	0.76819	1.74565
n_r	0.70652	1.74814
n_C	0.65627	1.75063
$n_{C'}$	0.64385	1.75132
$n_{He\text{-}Ne}$	0.6328	1.75197
n_D	0.58929	1.75487
n_d	0.58756	1.75500
n_e	0.54607	1.75844
n_F	0.48613	1.76506
$n_{F'}$	0.47999	1.76588
$n_{He\text{-}Cd}$	0.44157	1.77191
n_g	0.435835	1.77296
n_h	0.404656	1.77954
n_i	0.365015	1.79082

Constants of Dispersion Formula	
A_1	1.02730180E+00
A_2	9.89293564E-01
A_3	1.25781057E+00
B_1	1.83406129E-02
B_2	3.71264195E-03
B_3	8.78510500E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	51.2
Phosphate Resistance PR	2.0

Mechanical Properties		
Young's Modulus E (GPa)	120.9	
Rigidity Modulus G (GPa)	46.7	
Poisson's Ratio σ	0.295	
Knoop Hardness Hk[Class]	730 ∗	7
Abrasion Aa	62	

Partial Dispersions	
n_C-n_t	0.011678
n_C-$n_{A'}$	0.004974
n_d-n_C	0.004373
n_e-n_C	0.007813
n_g-n_d	0.017958
n_g-n_F	0.007900
n_h-n_g	0.006585
n_i-n_g	0.017860
n_C-n_t	0.012373
n_e-$n_{C'}$	0.007118
n_F-n_e	0.007444
n_i-$n_{F'}$	0.024934

Relative Partial Dispersions	
$\theta_{C,t}$	0.8092
$\theta_{C,A'}$	0.3447
$\theta_{d,C}$	0.3030
$\theta_{e,C}$	0.5414
$\theta_{g,d}$	1.2444
$\theta_{g,F}$	0.5474
$\theta_{h,g}$	0.4563
$\theta_{i,g}$	1.2376
$\theta'_{C',t}$	0.8497
$\theta'_{e,C'}$	0.4888
$\theta'_{F',e}$	0.5112
$\theta'_{i,F'}$	1.7123

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0170
$\Delta\theta_{C,A'}$	0.0054
$\Delta\theta_{g,d}$	-0.0117
$\Delta\theta_{g,F}$	-0.0094
$\Delta\theta_{i,g}$	-0.0493

Thermal Properties		
Strain Point StP (℃)		644
Annealing Point AP (℃)		670
Transformation Temperature Tg (℃)		692
Yield Point At (℃)		709
Softening Point SP (℃)		721
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	58
	(+100~+300℃)	72
Thermal Conductivity λ W/(m·K)		0.863

Coloring			
λ_{80}	355	λ_5	
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	328	$\lambda_{0.05}$	272

CCI		
B	G	R
0.00	0.21	0.21

Internal Transmittance	
λ(nm)	τ 10mm
280	0.28
290	0.43
300	0.55
310	0.65
320	0.74
330	0.82
340	0.88
350	0.923
360	0.951
370	0.969
380	0.980
390	0.986
400	0.990
420	0.993
440	0.995
460	0.997
480	0.998
500	0.999
550	0.999
600	0.999
650	0.999
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.995
1600	0.994
1800	0.984
2000	0.956
2200	0.87
2400	0.61

Temperature Coefficients of Refractive Index							
Range of Temperature (℃)	Δn/ΔT relative ($10^{-6}K^{-1}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	3.4	3.8	3.9	4.0	4.2	4.6	5.0
-20~ 0	3.3	3.8	3.9	4.0	4.2	4.6	5.1
0~20	3.3	3.9	3.9	4.1	4.3	4.7	5.2
20~40	3.4	3.9	4.0	4.1	4.3	4.8	5.3
40~60	3.5	4.0	4.1	4.3	4.5	4.9	5.4
60~80	3.6	4.2	4.2	4.4	4.6	5.1	5.6

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	1.39
Specific Gravity d	4.17
Remarks	

OHARA 23-05

※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.