S-LAL10

Code(d) **720502**
Code(e) **723500**

Refractive Index	n_d	**1.72000** 1.719995	Abbe Number	ν_d **50.23**	Dispersion	n_F-n_C **0.014334**
Refractive Index	n_e	1.723409	Abbe Number	ν_e 49.98	Dispersion	$n_{F'}$-$n_{C'}$ 0.014474

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.68159
n_{1970}	1.97009	1.68841
n_{1530}	1.52958	1.69567
n_{1129}	1.12864	1.70213
n_t	1.01398	1.70430
n_s	0.85211	1.70814
$n_{A'}$	0.76819	1.71079
n_r	0.70652	1.71323
n_C	0.65627	1.71567
$n_{C'}$	0.64385	1.71636
n_{He-Ne}	0.6328	1.71700
n_D	0.58929	1.71987
n_d	0.58756	1.72000
n_e	0.54607	1.72341
n_F	0.48613	1.73000
$n_{F'}$	0.47999	1.73083
n_{He-Cd}	0.44157	1.73686
n_g	0.435835	1.73792
n_h	0.404656	1.74455
n_i	0.365015	1.75597

Constants of Dispersion Formula	
A_1	1.52812575E+00
A_2	3.67965267E-01
A_3	1.11751784E+00
B_1	7.76817644E-03
B_2	2.72026548E-02
B_3	8.88697400E+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	52.2
Phosphate Resistance PR	3.0

Mechanical Properties		
Young's Modulus E (GPa)	106.1	
Rigidity Modulus G (GPa)	41.0	
Poisson's Ratio σ	0.294	
Knoop Hardness Hk[Class]	640	6
Abrasion Aa	89	

Partial Dispersions	
n_C-n_t	0.011368
n_C-$n_{A'}$	0.004885
n_d-n_C	0.004325
n_e-n_C	0.007739
n_g-n_d	0.017923
n_g-n_F	0.007914
n_h-n_g	0.006628
n_i-n_g	0.018051
n_C-n_t	0.012054
n_e-$n_{C'}$	0.007053
$n_{F'}$-n_e	0.007421
n_i-$n_{F'}$	0.025139

Relative Partial Dispersions	
$\theta_{C,t}$	0.7931
$\theta_{C,A'}$	0.3408
$\theta_{d,C}$	0.3017
$\theta_{e,C}$	0.5399
$\theta_{g,d}$	1.2504
$\theta_{g,F}$	0.5521
$\theta_{h,g}$	0.4624
$\theta_{i,g}$	1.2593
$\theta'_{C',t}$	0.8328
$\theta'_{e,C'}$	0.4873
$\theta'_{F',e}$	0.5127
$\theta'_{i,F'}$	1.7368

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0107
$\Delta\theta_{C,A'}$	0.0040
$\Delta\theta_{g,d}$	-0.0100
$\Delta\theta_{g,F}$	-0.0081
$\Delta\theta_{i,g}$	-0.0451

Thermal Properties		
Strain Point StP (℃)		582
Annealing Point AP (℃)		600
Transformation Temperature Tg (℃)		624
Yield Point At (℃)		657
Softening Point SP (℃)		692
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	61
	(+100~+300℃)	76
Thermal Conductivity λ W/(m·K)		0.850

Coloring			
λ_{80}	380	λ_5	310
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	357	$\lambda_{0.05}$	309

CCI		
B	G	R
0.00	0.59	0.60

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	
310	0.07
320	0.22
330	0.40
340	0.58
350	0.72
360	0.83
370	0.89
380	0.937
390	0.959
400	0.972
420	0.983
440	0.988
460	0.991
480	0.994
500	0.996
550	0.998
600	0.997
650	0.998
700	0.998
800	0.998
900	0.998
1000	0.998
1200	0.998
1400	0.997
1600	0.996
1800	0.990
2000	0.971
2200	0.922
2400	0.71

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	4.4	5.0	5.0	5.1	5.4	5.8	6.3
-20~ 0	4.5	5.0	5.1	5.2	5.5	5.9	6.4
0~20	4.5	5.1	5.2	5.3	5.5	6.0	6.5
20~40	4.6	5.2	5.2	5.4	5.6	6.1	6.7
40~60	4.6	5.2	5.3	5.5	5.7	6.3	6.8
60~80	4.6	5.3	5.4	5.5	5.8	6.4	6.9

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	2.17
Specific Gravity d	3.86
Remarks	

OHARA 24-01

※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.