S-LAL19

Code(d) **729541**
Code(e) **732539**

Refractive Index	n_d	**1.72916** 1.729160	Abbe Number	ν_d **54.09**	Dispersion	n_F-n_C **0.013480**
Refractive Index	n_e	1.732373	Abbe Number	ν_e 53.87	Dispersion	$n_{F'}$-$n_{C'}$ 0.013596

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.68912
n_{1970}	1.97009	1.69682
n_{1530}	1.52958	1.70487
n_{1129}	1.12864	1.71175
n_t	1.01398	1.71397
n_s	0.85211	1.71779
$n_{A'}$	0.76819	1.72038
n_r	0.70652	1.72273
n_C	0.65627	1.72506
$n_{C'}$	0.64385	1.72571
n_{He-Ne}	0.6328	1.72632
n_D	0.58929	1.72904
n_d	0.58756	1.72916
n_e	0.54607	1.73237
n_F	0.48613	1.73854
$n_{F'}$	0.47999	1.73931
n_{He-Cd}	0.44157	1.74491
n_g	0.435835	1.74588
n_h	0.404656	1.75199
n_i	0.365015	1.76243

Constants of Dispersion Formula	
A_1	9.73997577E-01
A_2	9.58186322E-01
A_3	1.20163359E+00
B_1	3.79332678E-03
B_2	1.77574581E-02
B_3	8.37989600E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	52.0
Phosphate Resistance PR	2.0

Mechanical Properties		
Young's Modulus E (GPa)	119.8	
Rigidity Modulus G (GPa)	46.3	
Poisson's Ratio σ	0.295	
Knoop Hardness Hk[Class]	720	7
Abrasion Aa	65	

Partial Dispersions	
n_C-n_t	0.011088
n_C-$n_{A'}$	0.004686
n_d-n_C	0.004099
n_e-n_C	0.007312
n_g-n_d	0.016725
n_g-n_F	0.007344
n_h-n_g	0.006108
n_i-n_g	0.016544
n_C-n_t	0.011740
n_e-$n_{C'}$	0.006660
$n_{F'}$-n_e	0.006936
n_i-$n_{F'}$	0.023120

Relative Partial Dispersions	
$\theta_{C,t}$	0.8226
$\theta_{C,A'}$	0.3476
$\theta_{d,C}$	0.3041
$\theta_{e,C}$	0.5424
$\theta_{g,d}$	1.2407
$\theta_{g,F}$	0.5448
$\theta_{h,g}$	0.4531
$\theta_{i,g}$	1.2273
$\theta'_{C',t}$	0.8635
$\theta'_{e,C'}$	0.4898
$\theta'_{F',e}$	0.5102
$\theta'_{i,F'}$	1.7005

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0221
$\Delta\theta_{C,A'}$	0.0062
$\Delta\theta_{g,d}$	-0.0117
$\Delta\theta_{g,F}$	-0.0092
$\Delta\theta_{i,g}$	-0.0448

Thermal Properties		
Strain Point StP (℃)		610
Annealing Point AP (℃)		634
Transformation Temperature Tg (℃)		644
Yield Point At (℃)		672
Softening Point SP (℃)		708
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	54
	(+100~+300℃)	69
Thermal Conductivity λ W/(m·K)		0.895

Coloring			
λ_{80}	355	λ_5	
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	327	$\lambda_{0.05}$	

CCI		
B	G	R
0.00	0.21	0.21

Internal Transmittance	
λ(nm)	τ 10mm
280	0.29
290	0.43
300	0.55
310	0.66
320	0.75
330	0.82
340	0.88
350	0.925
360	0.953
370	0.970
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	0.993
1600	0.993
1800	0.981
2000	0.951
2200	0.85
2400	0.58

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	4.3	4.7	4.7	4.9	5.0	5.4	5.8
-20~ 0	4.2	4.7	4.7	4.8	5.0	5.4	5.8
0~20	4.2	4.7	4.7	4.9	5.0	5.5	5.9
20~40	4.2	4.7	4.7	4.9	5.1	5.5	5.9
40~60	4.2	4.8	4.8	4.9	5.1	5.6	6.0
60~80	4.4	4.9	5.0	5.1	5.3	5.8	6.3

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	1.61
Specific Gravity d	3.98
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.