

S-LAL54

Code(d) **651562**

Code(e) **654559**

Refractive Index n_d	1.65100 1.650996	Abbe Number ν_d	56.16	Dispersion n_F-n_C	0.011591
Refractive Index n_e	1.653758	Abbe Number ν_e	55.89	Dispersion n_F-n_C'	0.011697

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.61893
n_{1970}	1.97009	1.62472
n_{1530}	1.52958	1.63089
n_{1129}	1.12864	1.63634
n_t	1.01398	1.63815
n_s	0.85211	1.64133
$n_{A'}$	0.76819	1.64350
n_r	0.70652	1.64549
n_C	0.65627	1.64749
$n_{C'}$	0.64385	1.64804
$n_{\text{He-Ne}}$	0.6328	1.64856
n_D	0.58929	1.65089
n_d	0.58756	1.65100
n_e	0.54607	1.65376
n_F	0.48613	1.65908
$n_{F'}$	0.47999	1.65974
$n_{\text{He-Cd}}$	0.44157	1.66459
n_g	0.435835	1.66543
n_h	0.404656	1.67073
n_i	0.365015	1.67982

Constants of Dispersion Formula	
A_1	1.41910189E+00
A_2	2.58416881E-01
A_3	1.07385537E+00
B_1	7.26647428E-03
B_2	2.63842499E-02
B_3	1.02555463E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	3
Acid Resistance(Powder) Group RA(P)	5
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	53.0
Phosphate Resistance PR	4.2

Mechanical Properties	
Young's Modulus E (10^9N/m^2)	877
Rigidity Modulus G (10^9N/m^2)	343
Poisson's Ratio σ	0.277
Knoop Hardness Hk[Class]	530 5
Abrasion Aa	170
Photoelastic Constant β nm/(cm · 10^5Pa)	1.66

Partial Dispersions	
n_C-n_t	0.009330
$n_C-n_{A'}$	0.003985
n_d-n_C	0.003511
n_e-n_C	0.006273
n_g-n_d	0.014434
n_g-n_F	0.006354
n_h-n_g	0.005299
n_i-n_g	0.014389
n_C-n_t	0.009888
$n_e-n_{C'}$	0.005715
n_F-n_e	0.005982
$n_i-n_{F'}$	0.020079

Relative Partial Dispersions	
$\theta_{C,t}$	0.8049
$\theta_{C,A'}$	0.3438
$\theta_{d,C}$	0.3029
$\theta_{e,C}$	0.5412
$\theta_{g,d}$	1.2453
$\theta_{g,F}$	0.5482
$\theta_{h,g}$	0.4572
$\theta_{i,g}$	1.2414
$\theta'_{C,t}$	0.8453
$\theta'_{e,C'}$	0.4886
$\theta'_{F,e}$	0.5114
$\theta'_{i,F'}$	1.7166

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0053
$\Delta\theta_{C,A'}$	-0.0001
$\Delta\theta_{g,d}$	-0.0028
$\Delta\theta_{g,F}$	-0.0024
$\Delta\theta_{i,g}$	-0.0134

Thermal Properties	
Strain Point StP (°C)	604
Annealing Point AP (°C)	631
Transformation Temperature Tg (°C)	651
Yield Point At (°C)	675
Softening Point SP (°C)	723
Expansion Coefficients (-30~+70°C)	71
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	83
Thermal Conductivity λ W/(m·K)	0.761

Coloring			
λ_{80}	365	λ_5	325
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	356	$\lambda_{0.05}$	327

CCI		
B	G	R
0.00	0.45	0.43

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	0.13
340	0.44
350	0.71
360	0.85
370	0.919
380	0.953
390	0.970
400	0.980
420	0.988
440	0.991
460	0.993
480	0.995
500	0.997
550	0.999
600	0.998
650	0.998
700	0.999
800	0.999
900	0.998
1000	0.998
1200	0.998
1400	0.993
1600	0.993
1800	0.985
2000	0.969
2200	0.913
2400	0.78

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative ($10^{-6}/^\circ\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	0.6	0.8	0.8	0.9	1.0	1.4	1.7
-20~ 0	0.7	0.9	0.9	1.0	1.2	1.5	1.8
0~20	0.7	1.0	1.0	1.1	1.3	1.6	1.9
20~40	0.7	1.1	1.1	1.2	1.4	1.7	2.1
40~60	0.8	1.2	1.2	1.3	1.5	1.8	2.2
60~80	0.9	1.3	1.3	1.4	1.6	2.0	2.4

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.82
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.