

S-LAM 3

Code(d) **717479**

Code(e) **721476**

Refractive Index n_d	1.71700 1.717004	Abbe Number ν_d	47.92	Dispersion n_F-n_C	0.014961
Refractive Index n_e	1.720563	Abbe Number ν_e	47.64	Dispersion $n_F-n_{C'}$	0.015124

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.68133
n_{1970}	1.97009	1.68699
n_{1530}	1.52958	1.69320
n_{1129}	1.12864	1.69905
n_t	1.01398	1.70111
n_s	0.85211	1.70488
$n_{A'}$	0.76819	1.70754
n_r	0.70652	1.71002
n_C	0.65627	1.71253
$n_{C'}$	0.64385	1.71323
$n_{\text{He-Ne}}$	0.6328	1.71390
n_D	0.58929	1.71687
n_d	0.58756	1.71700
n_e	0.54607	1.72056
n_F	0.48613	1.72749
$n_{F'}$	0.47999	1.72836
$n_{\text{He-Cd}}$	0.44157	1.73475
n_g	0.435835	1.73587
n_h	0.404656	1.74296
n_i	0.365015	1.75531

Constants of Dispersion Formula	
A_1	1.64258713E+00
A_2	2.39634610E-01
A_3	1.22483026E+00
B_1	8.68246020E-03
B_2	3.51226242E-02
B_3	1.16604369E+02

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	53.2
Phosphate Resistance PR	4.2

Mechanical Properties	
Young's Modulus E (GPa)	86.8
Rigidity Modulus G (GPa)	33.5
Poisson's Ratio σ	0.294
Knoop Hardness Hk(Class)	530 5
Abrasion Aa	184

Partial Dispersions	
n_C-n_t	0.011413
$n_C-n_{A'}$	0.004990
n_d-n_C	0.004476
n_e-n_C	0.008035
n_g-n_d	0.018871
n_g-n_F	0.008386
n_h-n_g	0.007085
n_i-n_g	0.019433
n_C-n_t	0.012120
$n_e-n_{C'}$	0.007328
$n_{F'}-n_e$	0.007796
$n_i-n_{F'}$	0.026949

Relative Partial Dispersions	
$\theta_{C,t}$	0.7629
$\theta_{C,A'}$	0.3335
$\theta_{d,C}$	0.2992
$\theta_{e,C}$	0.5371
$\theta_{g,d}$	1.2613
$\theta_{g,F}$	0.5605
$\theta_{h,g}$	0.4736
$\theta_{i,g}$	1.2989
$\theta'_{C,t}$	0.8014
$\theta'_{e,C'}$	0.4845
$\theta'_{F',e}$	0.5155
$\theta'_{i,F'}$	1.7819

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0086
$\Delta\theta_{C,A'}$	-0.0004
$\Delta\theta_{g,d}$	-0.0039
$\Delta\theta_{g,F}$	-0.0034
$\Delta\theta_{i,g}$	-0.0249

Thermal Properties	
Strain Point StP (°C)	588
Annealing Point AP (°C)	614
Transformation Temperature Tg (°C)	630
Yield Point At (°C)	661
Softening Point SP (°C)	701
Expansion Coefficients (-30~+70°C)	80
α (10^{-7}K^{-1}) (+100~+300°C)	94
Thermal Conductivity λ W/(m·K)	0.655

Coloring			
λ_{80}	385	λ_5	340
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	368	$\lambda_{0.05}$	338

CCI		
B	G	R
0.00	0.65	0.63

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	0.10
350	0.41
360	0.69
370	0.83
380	0.916
390	0.951
400	0.968
420	0.982
440	0.987
460	0.990
480	0.993
500	0.995
550	0.997
600	0.996
650	0.996
700	0.997
800	0.999
900	0.997
1000	0.997
1200	0.996
1400	0.994
1600	0.992
1800	0.983
2000	0.966
2200	0.920
2400	0.77

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	-0.8	-0.5	-0.5	-0.3	-0.1	0.3	0.8
-20~ 0	-0.8	-0.4	-0.4	-0.3	0.0	0.4	0.9
0~20	-0.8	-0.4	-0.4	-0.2	0.0	0.5	1.0
20~40	-0.8	-0.4	-0.3	-0.2	0.1	0.6	1.1
40~60	-0.8	-0.3	-0.3	-0.1	0.1	0.7	1.2
60~80	-0.8	-0.3	-0.3	-0.1	0.2	0.7	1.3

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	1.51
Specific Gravity d	4.25
Remarks	

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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.