

# S-LAM 2

Code(d) **744448**

Code(e) **748445**

Refractive Index $n_d$	<b>1.74400</b>	Abbe Number $\nu_d$	<b>44.78</b>	Dispersion $n_F-n_C$	<b>0.016613</b>
	1.743997				
Refractive Index $n_e$	1.747946	Abbe Number $\nu_e$	44.50	Dispersion $n_F-n_C'$	0.016806

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.70597
$n_{1970}$	1.97009	1.71177
$n_{1530}$	1.52958	1.71820
$n_{1129}$	1.12864	1.72436
$n_t$	1.01398	1.72658
$n_s$	0.85211	1.73065
$n_{A'}$	0.76819	1.73356
$n_f$	0.70652	1.73629
$n_C$	0.65627	1.73905
$n_{C'}$	0.64385	1.73983
$n_{\text{He-Ne}}$	0.6328	1.74056
$n_D$	0.58929	1.74385
$n_d$	0.58756	1.74400
$n_e$	0.54607	1.74795
$n_F$	0.48613	1.75566
$n_{F'}$	0.47999	1.75663
$n_{\text{He-Cd}}$	0.44157	1.76380
$n_g$	0.435835	1.76506
$n_h$	0.404656	1.77304
$n_i$	0.365015	1.78708

Constants of Dispersion Formula	
$A_1$	1.77130000E+00
$A_2$	1.95814230E-01
$A_3$	1.19487834E+00
$B_1$	9.76652444E-03
$B_2$	4.12718628E-02
$B_3$	1.10458122E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	2~3
Acid Resistance(Surface) Group SR	52.2
Phosphate Resistance PR	3.0

Mechanical Properties	
Young's Modulus E (GPa)	93.5
Rigidity Modulus G (GPa)	36.1
Poisson's Ratio $\sigma$	0.295
Knoop Hardness Hk(Class)	560   6
Abrasion Aa	157

Partial Dispersions	
$n_C-n_t$	0.012472
$n_C-n_{A'}$	0.005488
$n_d-n_C$	0.004949
$n_e-n_C$	0.008898
$n_g-n_d$	0.021058
$n_g-n_F$	0.009394
$n_h-n_g$	0.007986
$n_i-n_g$	0.022027
$n_C-n_t$	0.013252
$n_e-n_{C'}$	0.008118
$n_{F'}-n_e$	0.008688
$n_i-n_{F'}$	0.030448

Relative Partial Dispersions	
$\theta_{C,t}$	0.7507
$\theta_{C,A'}$	0.3303
$\theta_{d,C}$	0.2979
$\theta_{e,C}$	0.5356
$\theta_{g,d}$	1.2676
$\theta_{g,F}$	0.5655
$\theta_{h,g}$	0.4807
$\theta_{i,g}$	1.3259
$\theta'_{C,t}$	0.7885
$\theta'_{e,C}$	0.4830
$\theta'_{F',e}$	0.5170
$\theta'_{i,F'}$	1.8117

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	-0.0061
$\Delta \theta_{C,A'}$	0.0002
$\Delta \theta_{g,d}$	-0.0041
$\Delta \theta_{g,F}$	-0.0035
$\Delta \theta_{i,g}$	-0.0242

Thermal Properties	
Strain Point StP (°C)	590
Annealing Point AP (°C)	617
Transformation Temperature Tg (°C)	633
Yield Point At (°C)	670
Softening Point SP (°C)	711
Expansion Coefficients (-30~+70°C)	74
$\alpha$ (10 <sup>-7</sup> K <sup>-1</sup> ) (+100~+300°C)	87
Thermal Conductivity $\lambda$ W/(m·K)	0.698

Coloring			
$\lambda_{80}$	395	$\lambda_5$	340
$\lambda_{70}$			

Internal transmission			
$\lambda_{0.80}$	372	$\lambda_{0.05}$	340

CCI		
B	G	R
0.00	1.00	1.02

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	
310	
320	
330	
340	0.04
350	0.29
360	0.59
370	0.78
380	0.87
390	0.925
400	0.950
420	0.973
440	0.983
460	0.987
480	0.992
500	0.995
550	0.997
600	0.997
650	0.997
700	0.998
800	0.999
900	0.997
1000	0.997
1200	0.999
1400	0.997
1600	0.996
1800	0.988
2000	0.971
2200	0.928
2400	0.79

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative (10 <sup>-6</sup> K <sup>-1</sup> )						
	t	C'	He-Ne	D	e	F'	g
-40~-20	1.9	2.5	2.5	2.7	3.0	3.5	4.1
-20~ 0	2.0	2.6	2.6	2.8	3.1	3.7	4.3
0~20	2.0	2.6	2.7	2.9	3.2	3.8	4.5
20~40	2.1	2.7	2.8	3.0	3.3	3.9	4.6
40~60	2.2	2.8	2.8	3.1	3.4	4.1	4.8
60~80	2.2	2.9	2.9	3.2	3.5	4.2	4.9

Other Properties	
Photoelastic Constant $\beta$ nm/(cm·10 <sup>5</sup> Pa)	1.72
Specific Gravity d	4.32
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.