

S-LAM55

Code(d) **762401**

Code(e) **767398**

Refractive Index n_d	1.76200 1.762001	Abbe Number ν_d	40.10	Dispersion n_F-n_C	0.019003
Refractive Index n_e	1.766509	Abbe Number ν_e	39.82	Dispersion $n_F-n_{C'}$	0.019247

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.72020
n_{1970}	1.97009	1.72640
n_{1530}	1.52958	1.73328
n_{1129}	1.12864	1.73998
n_t	1.01398	1.74242
n_s	0.85211	1.74695
$n_{A'}$	0.76819	1.75020
n_r	0.70652	1.75327
n_C	0.65627	1.75639
$n_{C'}$	0.64385	1.75727
$n_{\text{He-Ne}}$	0.6328	1.75810
n_D	0.58929	1.76183
n_d	0.58756	1.76200
n_e	0.54607	1.76651
n_F	0.48613	1.77539
$n_{F'}$	0.47999	1.77652
$n_{\text{He-Cd}}$	0.44157	1.78487
n_g	0.435835	1.78634
n_h	0.404656	1.79580
n_i	0.365015	1.81280

Constants of Dispersion Formula	
A_1	1.85412979E+00
A_2	1.65450323E-01
A_3	1.27255422E+00
B_1	1.08438152E-02
B_2	5.14050980E-02
B_3	1.09986837E+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	51.2
Phosphate Resistance PR	1.0

Mechanical Properties	
Young's Modulus E (GPa)	96.7
Rigidity Modulus G (GPa)	37.4
Poisson's Ratio σ	0.292
Knoop Hardness Hk(Class)	590 6
Abrasion Aa	145

Partial Dispersions	
n_C-n_t	0.013960
$n_C-n_{A'}$	0.006182
n_d-n_C	0.005616
n_e-n_C	0.010124
n_g-n_d	0.024342
n_g-n_F	0.010955
n_h-n_g	0.009453
n_i-n_g	0.026457
n_C-n_t	0.014843
$n_e-n_{C'}$	0.009241
$n_{F'}-n_e$	0.010006
$n_i-n_{F'}$	0.036285

Relative Partial Dispersions	
$\theta_{C,t}$	0.7346
$\theta_{C,A'}$	0.3253
$\theta_{d,C}$	0.2955
$\theta_{e,C}$	0.5328
$\theta_{g,d}$	1.2810
$\theta_{g,F}$	0.5765
$\theta_{h,g}$	0.4974
$\theta_{i,g}$	1.3923
$\theta'_{C,t}$	0.7712
$\theta'_{e,C'}$	0.4801
$\theta'_{F',e}$	0.5199
$\theta'_{i,F'}$	1.8852

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0002
$\Delta\theta_{C,A'}$	0.0008
$\Delta\theta_{g,d}$	-0.0004
$\Delta\theta_{g,F}$	-0.0001
$\Delta\theta_{i,g}$	0.0031

Thermal Properties	
Strain Point StP (°C)	589
Annealing Point AP (°C)	617
Transformation Temperature Tg (°C)	632
Yield Point At (°C)	662
Softening Point SP (°C)	709
Expansion Coefficients (-30~+70°C)	71
α (10^{-7}K^{-1}) (+100~+300°C)	84
Thermal Conductivity λ W/(m·K)	0.741

Coloring			
λ_{80}	405	λ_5	350
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	378	$\lambda_{0.05}$	350

CCI		
B	G	R
0.00	1.43	1.46

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	0.06
360	0.37
370	0.67
380	0.82
390	0.89
400	0.932
420	0.963
440	0.976
460	0.984
480	0.989
500	0.993
550	0.997
600	0.997
650	0.997
700	0.998
800	0.999
900	0.998
1000	0.998
1200	0.998
1400	0.995
1600	0.994
1800	0.986
2000	0.970
2200	0.923
2400	0.78

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	2.5	3.1	3.1	3.3	3.6	4.3	5.1
-20~ 0	2.6	3.2	3.2	3.5	3.8	4.5	5.3
0~20	2.6	3.3	3.3	3.6	3.9	4.7	5.5
20~40	2.7	3.4	3.4	3.7	4.0	4.8	5.7
40~60	2.8	3.5	3.5	3.8	4.2	5.0	5.9
60~80	2.8	3.6	3.6	3.9	4.3	5.2	6.1

Other Properties	
Photoelastic Constant β nm/(cm \cdot 10 5 Pa)	1.88
Specific Gravity d	4.22
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.