

# S-LAM60

Code(d) **743493**

Code(e) **747491**

Refractive Index $n_d$	1.74320 1.743198	Abbe Number $\nu_d$	49.34	Dispersion $n_F-n_C$	0.015063
Refractive Index $n_e$	1.746784	Abbe Number $\nu_e$	49.10	Dispersion $n_F-n_{C'}$	0.015210

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.70181
$n_{1970}$	1.97009	1.70932
$n_{1530}$	1.52958	1.71730
$n_{1129}$	1.12864	1.72431
$n_t$	1.01398	1.72663
$n_s$	0.85211	1.73071
$n_{A'}$	0.76819	1.73351
$n_f$	0.70652	1.73608
$n_C$	0.65627	1.73865
$n_{C'}$	0.64385	1.73937
$n_{\text{He-Ne}}$	0.6328	1.74005
$n_D$	0.58929	1.74306
$n_d$	0.58756	1.74320
$n_e$	0.54607	1.74678
$n_F$	0.48613	1.75372
$n_{F'}$	0.47999	1.75458
$n_{\text{He-Cd}}$	0.44157	1.76094
$n_g$	0.435835	1.76205
$n_h$	0.404656	1.76904
$n_i$	0.365015	1.78113

Constants of Dispersion Formula	
$A_1$	1.60673056E+00
$A_2$	3.66415640E-01
$A_3$	1.31761804E+00
$B_1$	7.75046140E-03
$B_2$	2.89967611E-02
$B_3$	9.30720709E+01

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	52.0
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (GPa)	113.2
Rigidity Modulus G (GPa)	43.8
Poisson's Ratio $\sigma$	0.294
Knoop Hardness Hk(Class)	700 * 7
Abrasion Aa	70

Partial Dispersions	
$n_C-n_t$	0.012019
$n_C-n_{A'}$	0.005143
$n_d-n_C$	0.004545
$n_e-n_C$	0.008131
$n_g-n_d$	0.018849
$n_g-n_F$	0.008331
$n_h-n_g$	0.006993
$n_i-n_g$	0.019083
$n_C-n_t$	0.012740
$n_e-n_{C'}$	0.007410
$n_{F'}-n_e$	0.007800
$n_i-n_{F'}$	0.026546

Relative Partial Dispersions	
$\theta_{C,t}$	0.7979
$\theta_{C,A'}$	0.3414
$\theta_{d,C}$	0.3017
$\theta_{e,C}$	0.5398
$\theta_{g,d}$	1.2513
$\theta_{g,F}$	0.5531
$\theta_{h,g}$	0.4643
$\theta_{i,g}$	1.2669
$\theta'_{C,t}$	0.8376
$\theta'_{e,C}$	0.4872
$\theta'_{F',e}$	0.5128
$\theta'_{i,F'}$	1.7453

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0197
$\Delta \theta_{C,A'}$	0.0057
$\Delta \theta_{g,d}$	-0.0109
$\Delta \theta_{g,F}$	-0.0085
$\Delta \theta_{i,g}$	-0.0450

Thermal Properties	
Strain Point StP (°C)	594
Annealing Point AP (°C)	615
Transformation Temperature Tg (°C)	643
Yield Point At (°C)	658
Softening Point SP (°C)	693
Expansion Coefficients (-30~+70°C)	54
$\alpha$ ( $10^{-7} \text{K}^{-1}$ ) (+100~+300°C)	66
Thermal Conductivity $\lambda$ W/(m·K)	0.845

Coloring			
$\lambda_{80}$	375	$\lambda_5$	330
$\lambda_{70}$			

Internal transmission			
$\lambda_{0.80}$	360	$\lambda_{0.05}$	331

CCI		
B	G	R
0.00	0.51	0.52

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	
310	
320	
330	0.03
340	0.29
350	0.60
360	0.79
370	0.89
380	0.937
390	0.961
400	0.974
420	0.985
440	0.990
460	0.993
480	0.995
500	0.997
550	0.998
600	0.997
650	0.998
700	0.998
800	0.998
900	0.998
1000	0.997
1200	0.997
1400	0.991
1600	0.991
1800	0.980
2000	0.953
2200	0.87
2400	0.62

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative ( $10^{-6}\text{K}^{-1}$ )						
	t	C'	He-Ne	D	e	F'	g
-40~-20	5.3	5.7	5.7	5.9	6.1	6.6	7.1
-20~ 0	5.4	5.8	5.9	6.1	6.3	6.8	7.3
0~20	5.5	6.0	6.0	6.2	6.4	7.0	7.5
20~40	5.6	6.1	6.2	6.4	6.6	7.2	7.7
40~60	5.7	6.3	6.3	6.5	6.8	7.4	7.9
60~80	5.9	6.5	6.5	6.6	7.0	7.5	8.1

Other Properties	
Photoelastic Constant $\beta$ nm/(cm·10 <sup>9</sup> Pa)	1.90
Specific Gravity d	4.06
Remarks	

OHARA 23-05

OHARA Copyright© OHARA INC. All Rights Reserved.

※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.