

# S-LAH58

Code(d) **883408**

Code(e) **888405**

Refractive Index $n_d$	<b>1.88300</b> 1.882997	Abbe Number $\nu_d$	<b>40.76</b>	Dispersion $n_F-n_C$	<b>0.021661</b>
Refractive Index $n_e$	1.888146	Abbe Number $\nu_e$	40.52	Dispersion $n_F-n_{C'}$	0.021919

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.83590
$n_{1970}$	1.97009	1.84264
$n_{1530}$	1.52958	1.85023
$n_{1129}$	1.12864	1.85776
$n_t$	1.01398	1.86054
$n_s$	0.85211	1.86572
$n_{A'}$	0.76819	1.86946
$n_r$	0.70652	1.87298
$n_C$	0.65627	1.87656
$n_{C'}$	0.64385	1.87757
$n_{\text{He-Ne}}$	0.6328	1.87852
$n_D$	0.58929	1.88281
$n_d$	0.58756	1.88300
$n_e$	0.54607	1.88815
$n_F$	0.48613	1.89822
$n_{F'}$	0.47999	1.89949
$n_{\text{He-Cd}}$	0.44157	1.90885
$n_g$	0.435835	1.91050
$n_h$	0.404656	1.92092
$n_i$	0.365015	1.93917

Constants of Dispersion Formula	
$A_1$	1.78764964E+00
$A_2$	6.52635600E-01
$A_3$	1.79914564E+00
$B_1$	8.47378536E-03
$B_2$	3.13126408E-02
$B_3$	1.32788001E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	1~2
Acid Resistance(Surface) Group SR	2.2
Phosphate Resistance PR	1.0

Mechanical Properties	
Young's Modulus E (GPa)	126.8
Rigidity Modulus G (GPa)	48.7
Poisson's Ratio $\sigma$	0.301
Knoop Hardness Hk(Class)	720   7
Abrasion Aa	62

Partial Dispersions	
$n_C-n_t$	0.016022
$n_C-n_{A'}$	0.007103
$n_d-n_C$	0.006437
$n_e-n_C$	0.011586
$n_g-n_d$	0.027500
$n_g-n_F$	0.012276
$n_h-n_g$	0.010422
$n_i-n_g$	0.028677
$n_C-n_t$	0.017035
$n_e-n_{C'}$	0.010573
$n_{F'}-n_e$	0.011346
$n_i-n_{F'}$	0.039682

Relative Partial Dispersions	
$\theta_{C,t}$	0.7397
$\theta_{C,A'}$	0.3279
$\theta_{d,C}$	0.2972
$\theta_{e,C}$	0.5349
$\theta_{g,d}$	1.2696
$\theta_{g,F}$	0.5667
$\theta_{h,g}$	0.4811
$\theta_{i,g}$	1.3239
$\theta'_{C,t}$	0.7772
$\theta'_{e,C'}$	0.4824
$\theta'_{F',e}$	0.5176
$\theta'_{i,F'}$	1.8104

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0018
$\Delta\theta_{C,A'}$	0.0026
$\Delta\theta_{g,d}$	-0.0105
$\Delta\theta_{g,F}$	-0.0088
$\Delta\theta_{i,g}$	-0.0598

Thermal Properties	
Strain Point StP (°C)	666
Annealing Point AP (°C)	714
Transformation Temperature Tg (°C)	738
Yield Point At (°C)	765
Softening Point SP (°C)	803
Expansion Coefficients (-30~+70°C)	66
$\alpha$ ( $10^{-7} \text{K}^{-1}$ ) (+100~+300°C)	78
Thermal Conductivity $\lambda$ W/(m·K)	0.827

Coloring			
$\lambda_{80}$		$\lambda_5$	315
$\lambda_{70}$	375		

Internal transmission			
$\lambda_{0.80}$	374	$\lambda_{0.05}$	320

CCI		
B	G	R
0.00	1.69	1.75

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	
310	
320	0.05
330	0.17
340	0.34
350	0.51
360	0.66
370	0.77
380	0.84
390	0.89
400	0.924
420	0.951
440	0.965
460	0.974
480	0.982
500	0.988
550	0.995
600	0.995
650	0.995
700	0.995
800	0.995
900	0.995
1000	0.995
1200	0.996
1400	0.996
1600	0.996
1800	0.992
2000	0.980
2200	0.956
2400	0.84

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	3.3	4.1	4.1	4.4	4.7	5.4	6.2
-20~ 0	3.4	4.2	4.3	4.6	4.9	5.6	6.4
0~20	3.6	4.3	4.4	4.7	5.0	5.8	6.6
20~40	3.7	4.5	4.5	4.9	5.2	6.0	6.8
40~60	3.9	4.6	4.6	5.0	5.3	6.2	7.1
60~80	4.0	4.7	4.8	5.2	5.5	6.4	7.3

Other Properties	
Photoelastic Constant $\beta$ nm/(cm·10 <sup>5</sup> Pa)	1.30
Specific Gravity d	5.52
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.