

# S-LAH96

Code(d) **764485**

Code(e) **768482**

Refractive Index $n_d$	<b>1.76385</b> 1.763850	Abbe Number $\nu_d$	<b>48.49</b>	Dispersion $n_F-n_C$	<b>0.015753</b>
Refractive Index $n_e$	1.767599	Abbe Number $\nu_e$	48.21	Dispersion $n_F-n_{C'}$	0.015923

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.72543
$n_{1970}$	1.97009	1.73168
$n_{1530}$	1.52958	1.73848
$n_{1129}$	1.12864	1.74481
$n_t$	1.01398	1.74702
$n_s$	0.85211	1.75103
$n_{A'}$	0.76819	1.75385
$n_r$	0.70652	1.75648
$n_C$	0.65627	1.75913
$n_{C'}$	0.64385	1.75988
$n_{\text{He-Ne}}$	0.6328	1.76057
$n_D$	0.58929	1.76371
$n_d$	0.58756	1.76385
$n_e$	0.54607	1.76760
$n_F$	0.48613	1.77488
$n_{F'}$	0.47999	1.77580
$n_{\text{He-Cd}}$	0.44157	1.78251
$n_g$	0.435835	1.78369
$n_h$	0.404656	1.79112
$n_i$	0.365015	1.80405

Constants of Dispersion Formula	
$A_1$	1.85078519E+00
$A_2$	1.89204854E-01
$A_3$	1.19763137E+00
$B_1$	9.40657541E-03
$B_2$	3.80345187E-02
$B_3$	1.01426835E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	5.0
Phosphate Resistance PR	1.0

Mechanical Properties	
Young's Modulus E (GPa)	118.7
Rigidity Modulus G (GPa)	45.8
Poisson's Ratio $\sigma$	0.296
Knoop Hardness Hk(Class)	690   7
Abrasion Aa	81

Partial Dispersions	
$n_C-n_t$	0.012108
$n_C-n_{A'}$	0.005277
$n_d-n_C$	0.004721
$n_e-n_C$	0.008470
$n_g-n_d$	0.019837
$n_g-n_F$	0.008805
$n_h-n_g$	0.007429
$n_i-n_g$	0.020364
$n_C-n_t$	0.012854
$n_e-n_{C'}$	0.007724
$n_{F'}-n_e$	0.008199
$n_i-n_{F'}$	0.028253

Relative Partial Dispersions	
$\theta_{C,t}$	0.7686
$\theta_{C,A'}$	0.3350
$\theta_{d,C}$	0.2997
$\theta_{e,C}$	0.5377
$\theta_{g,d}$	1.2593
$\theta_{g,F}$	0.5589
$\theta_{h,g}$	0.4716
$\theta_{i,g}$	1.2927
$\theta'_{C,t}$	0.8073
$\theta'_{e,C'}$	0.4851
$\theta'_{F',e}$	0.5149
$\theta'_{i,F'}$	1.7744

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0056
$\Delta\theta_{C,A'}$	0.0004
$\Delta\theta_{g,d}$	-0.0047
$\Delta\theta_{g,F}$	-0.0041
$\Delta\theta_{i,g}$	-0.0263

Thermal Properties	
Strain Point StP (°C)	-
Annealing Point AP (°C)	-
Transformation Temperature Tg (°C)	629
Yield Point At (°C)	655
Softening Point SP (°C)	-
Expansion Coefficients (-30~+70°C)	70
$\alpha$ ( $10^{-7} \text{K}^{-1}$ ) (+100~+300°C)	84
Thermal Conductivity $\lambda$ W/(m·K)	0.890

Coloring			
$\lambda_{80}$	400	$\lambda_5$	345
$\lambda_{70}$			

Internal transmission			
$\lambda_{0.80}$	378	$\lambda_{0.05}$	342

CCI		
B	G	R
0.00	1.09	1.11

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	
310	
320	
330	
340	0.02
350	0.19
360	0.48
370	0.71
380	0.83
390	0.905
400	0.941
420	0.972
440	0.982
460	0.988
480	0.992
500	0.994
550	0.996
600	0.996
650	0.996
700	0.997
800	0.997
900	0.996
1000	0.996
1200	0.997
1400	0.995
1600	0.995
1800	0.989
2000	0.972
2200	0.930
2400	0.76

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	2.6	3.2	3.2	3.4	3.7	4.2	4.7
-20~ 0	2.5	3.1	3.2	3.3	3.6	4.1	4.7
0~20	2.4	3.1	3.1	3.3	3.5	4.1	4.7
20~40	2.4	3.0	3.1	3.3	3.5	4.1	4.7
40~60	2.4	3.1	3.1	3.3	3.6	4.2	4.8
60~80	2.5	3.2	3.2	3.4	3.7	4.3	5.0

Other Properties	
Photoelastic Constant $\beta$ nm/(cm $\cdot$ 10 $^5$ Pa)	1.12
Specific Gravity d	4.54
Remarks	

OHARA 24-01

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.