

# S-LAH64

Code(d) **788474**

Code(e) **792471**

Refractive Index $n_d$	<b>1.78800</b> 1.788001	Abbe Number $v_d$	<b>47.4</b> 47.37	Dispersion $n_F-n_C$	<b>0.01663</b> 0.016636
Refractive Index $n_e$	1.791961	Abbe Number $v_e$	47.12	Dispersion $n_F-n_C$	0.016806

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.74466
$n_{1970}$	1.97009	1.75220
$n_{1530}$	1.52958	1.76026
$n_{1129}$	1.12864	1.76750
$n_t$	1.01398	1.76996
$n_s$	0.85211	1.77433
$n_{A'}$	0.76819	1.77737
$n_r$	0.70652	1.78018
$n_C$	0.65627	1.78300
$n_{C'}$	0.64385	1.78379
$n_{\text{He-Ne}}$	0.6328	1.78453
$n_D$	0.58929	1.78785
$n_d$	0.58756	1.78800
$n_e$	0.54607	1.79196
$n_F$	0.48613	1.79963
$n_{F'}$	0.47999	1.80060
$n_{\text{He-Cd}}$	0.44157	1.80765
$n_g$	0.435835	1.80888
$n_h$	0.404656	1.81666
$n_i$	0.365015	1.83016

Partial Dispersions	
$n_C-n_t$	0.013038
$n_C-n_{A'}$	0.005628
$n_d-n_C$	0.005003
$n_e-n_C$	0.008963
$n_g-n_d$	0.020881
$n_g-n_F$	0.009248
$n_h-n_g$	0.007782
$n_i-n_g$	0.021279
$n_C-n_t$	0.013830
$n_e-n_{C'}$	0.008171
$n_{F'}-n_e$	0.008635
$n_i-n_{F'}$	0.029565

Relative Partial Dispersions	
$\theta_{C,t}$	0.7837
$\theta_{C,A'}$	0.3383
$\theta_{d,C}$	0.3007
$\theta_{e,C}$	0.5388
$\theta_{g,d}$	1.2552
$\theta_{g,F}$	0.5559
$\theta_{h,g}$	0.4678
$\theta_{i,g}$	1.2791
$\theta'_{C,t}$	0.8229
$\theta'_{e,C'}$	0.4862
$\theta'_{F',e}$	0.5138
$\theta'_{i,F}$	1.7592

Thermal Properties	
Strain Point StP (°C)	644
Annealing Point AP (°C)	660
Transformation Temperature Tg (°C)	685
Yield Point At (°C)	705
Softening Point SP (°C)	732
Expansion Coefficients (-30~+70°C)	61
$\alpha$ (10 <sup>-7</sup> /°C) (+100~+300°C)	74
Thermal Conductivity k (W/m-K)	0.856

Coloring			
$\lambda_{80}$	38	$\lambda_5$	32
$\lambda_{70}$			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	0.13
330	0.40
340	0.63
350	0.77
360	0.85
370	0.912
380	0.943
390	0.961
400	0.972
420	0.981
440	0.986
460	0.990
480	0.993
500	0.996
550	0.998
600	0.998
650	0.998
700	0.998
800	0.999
900	0.998
1000	0.997
1200	0.996
1400	0.995
1600	0.993
1800	0.987
2000	0.966
2200	0.915
2400	0.68

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0148
$\Delta\theta_{C,A'}$	0.0050
$\Delta\theta_{g,d}$	-0.0111
$\Delta\theta_{g,F}$	-0.0089
$\Delta\theta_{i,g}$	-0.0493

Mechanical Properties	
Young's Modulus E (10 <sup>8</sup> N/m <sup>2</sup> )	1224
Rigidity Modulus G (10 <sup>8</sup> N/m <sup>2</sup> )	473
Poisson's Ratio $\sigma$	0.294
Knoop Hardness Hk[Class]	750   7
Abrasion Aa	61
Photoelastic Constant $\beta$ (nm/cm/10 <sup>5</sup> Pa)	1.40

Constants of Dispersion Formula	
A <sub>1</sub>	1.83021453E+00
A <sub>2</sub>	2.91563590E-01
A <sub>3</sub>	1.28544024E+00
B <sub>1</sub>	9.04823290E-03
B <sub>2</sub>	3.30756689E-02
B <sub>3</sub>	8.93675501E+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	4.0
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.30
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$dn/dt$ relative (10 <sup>-6</sup> /°C)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	3.5	3.9	3.9	4.1	4.3	4.8	5.3
-20~0	3.5	4.0	4.0	4.2	4.4	5.0	5.5
0~20	3.6	4.1	4.1	4.3	4.6	5.1	5.7
20~40	3.7	4.2	4.2	4.4	4.7	5.3	5.8
40~60	3.8	4.3	4.3	4.5	4.8	5.4	6.0
60~80	3.9	4.4	4.4	4.6	4.9	5.5	6.2