

# S-LAH65

Code(d) **804466**

Code(e) **808463**

Refractive Index $n_d$	<b>1.80400</b> 1.804000	Abbe Number $\nu_d$	<b>46.6</b> 46.57	Dispersion $n_F-n_C$	<b>0.01726</b> 0.017265
Refractive Index $n_e$	1.808109	Abbe Number $\nu_e$	46.33	Dispersion $n_F-n_{C'}$	0.017444

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.75978
$n_{1970}$	1.97009	1.76734
$n_{1530}$	1.52958	1.77547
$n_{1129}$	1.12864	1.78284
$n_t$	1.01398	1.78536
$n_s$	0.85211	1.78986
$n_{A'}$	0.76819	1.79299
$n_r$	0.70652	1.79590
$n_C$	0.65627	1.79882
$n_{C'}$	0.64385	1.79964
$n_{\text{He-Ne}}$	0.6328	1.80040
$n_D$	0.58929	1.80385
$n_d$	0.58756	1.80400
$n_e$	0.54607	1.80811
$n_F$	0.48613	1.81608
$n_{F'}$	0.47999	1.81708
$n_{\text{He-Cd}}$	0.44157	1.82442
$n_g$	0.435835	1.82570
$n_h$	0.404656	1.83380
$n_i$	0.365015	1.84786

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0139
$\Delta\theta_{C,A'}$	0.0048
$\Delta\theta_{g,d}$	-0.0112
$\Delta\theta_{g,F}$	-0.0090
$\Delta\theta_{i,g}$	-0.0518

Constants of Dispersion Formula	
$A_1$	1.68191258E+00
$A_2$	4.93779818E-01
$A_3$	1.45682822E+00
$B_1$	7.76684250E-03
$B_2$	2.88916181E-02
$B_3$	9.92574356E+01

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.76
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative ( $10^{-6}/^{\circ}\text{C}$ )						
	t	C'	He-Ne	D	e	F'	g
-40~20	3.6	4.0	4.0	4.2	4.4	5.0	5.5
-20~ 0	3.7	4.1	4.1	4.4	4.6	5.1	5.7
0~20	3.8	4.2	4.3	4.5	4.7	5.3	5.9
20~40	3.9	4.4	4.4	4.7	4.9	5.5	6.1
40~60	4.0	4.5	4.5	4.8	5.0	5.7	6.3
60~80	4.0	4.6	4.7	5.0	5.2	5.8	6.5

Partial Dispersions	
$n_C-n_t$	0.013452
$n_C-n_{A'}$	0.005820
$n_d-n_C$	0.005185
$n_e-n_C$	0.009294
$n_g-n_d$	0.021699
$n_g-n_F$	0.009619
$n_h-n_g$	0.008101
$n_i-n_g$	0.022157
$n_C-n_t$	0.014273
$n_e-n_{C'}$	0.008473
$n_F-n_e$	0.008971
$n_i-n_F$	0.030776

Thermal Properties	
Strain Point StP (°C)	622
Annealing Point AP (°C)	670
Transformation Temperature Tg (°C)	700
Yield Point At (°C)	723
Softening Point SP (°C)	743
Expansion Coefficients (-30~+70°C)	60
$\alpha$ ( $10^{-7}/^{\circ}\text{C}$ ) (+100~+300°C)	73
Thermal Conductivity k (W/m·K)	0.833

Mechanical Properties	
Young's Modulus E ( $10^8\text{N/m}^2$ )	1258
Rigidity Modulus G ( $10^8\text{N/m}^2$ )	486
Poisson's Ratio $\sigma$	0.295
Knoop Hardness Hk(Class)	730   7
Abrasion Aa	56
Photoelastic Constant $\beta$ (nm/cm/ $10^5\text{Pa}$ )	1.42

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	2~1
Acid Resistance(Surface) Group SR	4.1
Phosphate Resistance PR	1.0

Relative Partial Dispersions	
$\theta_{C,t}$	0.7791
$\theta_{C,A'}$	0.3371
$\theta_{d,C}$	0.3003
$\theta_{e,C}$	0.5383
$\theta_{g,d}$	1.2568
$\theta_{g,F}$	0.5571
$\theta_{h,g}$	0.4692
$\theta_{i,g}$	1.2833
$\theta'_{C,t}$	0.8182
$\theta'_{e,C'}$	0.4857
$\theta'_{F,e}$	0.5143
$\theta'_{i,F}$	1.7643

Coloring			
$\lambda_{80}$	39	$\lambda_5$	32
$\lambda_{70}$			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	
310	
320	0.08
330	0.28
340	0.50
350	0.66
360	0.78
370	0.86
380	0.916
390	0.947
400	0.964
420	0.980
440	0.988
460	0.992
480	0.995
500	0.996
550	0.998
600	0.998
650	0.998
700	0.998
800	0.998
900	0.997
1000	0.997
1200	0.997
1400	0.994
1600	0.993
1800	0.983
2000	0.959
2200	0.89
2400	0.66