

# S-LAH71

Code(d) **850323**

Code(e) **856320**

Refractive Index $n_d$	<b>1.85026</b> 1.850259	Abbe Number $v_d$	<b>32.3</b> 32.27	Dispersion $n_F-n_C$	<b>0.02634</b> 0.026349
Refractive Index $n_e$	1.856493	Abbe Number $v_e$	32.03	Dispersion $n_F'-n_C'$	0.026744

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.80095
$n_{1970}$	1.97009	1.80685
$n_{1530}$	1.52958	1.81380
$n_{1129}$	1.12864	1.82133
$n_t$	1.01398	1.82429
$n_s$	0.85211	1.83004
$n_{A'}$	0.76819	1.83430
$n_r$	0.70652	1.83838
$n_C$	0.65627	1.84259
$n_{C'}$	0.64385	1.84378
$n_{\text{He-Ne}}$	0.6328	1.84491
$n_D$	0.58929	1.85003
$n_d$	0.58756	1.85026
$n_e$	0.54607	1.85649
$n_F$	0.48613	1.86893
$n_{F'}$	0.47999	1.87053
$n_{\text{He-Cd}}$	0.44157	1.88243
$n_g$	0.435835	1.88456
$n_h$	0.404656	1.89827
$n_i$	0.365015	

Partial Dispersions	
$n_C-n_t$	0.018292
$n_C-n_{A'}$	0.008288
$n_d-n_C$	0.007673
$n_e-n_C$	0.013907
$n_g-n_d$	0.034299
$n_g-n_F$	0.015623
$n_h-n_g$	0.013716
$n_i-n_g$	
$n_C-n_t$	0.019490
$n_e-n_{C'}$	0.012709
$n_{F'}-n_e$	0.014035
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6942
$\theta_{C,A'}$	0.3145
$\theta_{d,C}$	0.2912
$\theta_{e,C}$	0.5278
$\theta_{g,d}$	1.3017
$\theta_{g,F}$	0.5929
$\theta_{h,g}$	0.5206
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7288
$\theta'_{e,C'}$	0.4752
$\theta'_{F',e}$	0.5248
$\theta'_{i,F}$	

Thermal Properties	
Strain Point StP (°C)	656
Annealing Point AP (°C)	685
Transformation Temperature Tg (°C)	707
Yield Point At (°C)	752
Softening Point SP (°C)	802
Expansion Coefficients (-30~+70°C)	77
$\alpha$ (10 <sup>-7</sup> /°C) (+100~+300°C)	91
Thermal Conductivity k (W/m-K)	0.874

Coloring			
$\lambda_{80}$		$\lambda_5$	37
$\lambda_{70}$	42		

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	
350	
360	0.01
370	0.11
380	0.29
390	0.49
400	0.65
420	0.83
440	0.913
460	0.945
480	0.963
500	0.976
550	0.992
600	0.995
650	0.995
700	0.997
800	0.998
900	0.999
1000	0.999
1200	0.999
1400	0.999
1600	0.998
1800	0.993
2000	0.989
2200	0.982
2400	0.959

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0039
$\Delta\theta_{C,A'}$	-0.0005
$\Delta\theta_{g,d}$	0.0040
$\Delta\theta_{g,F}$	0.0036
$\Delta\theta_{i,g}$	

Mechanical Properties	
Young's Modulus E (10 <sup>8</sup> N/m <sup>2</sup> )	1100
Rigidity Modulus G (10 <sup>8</sup> N/m <sup>2</sup> )	429
Poisson's Ratio $\sigma$	0.281
Knoop Hardness Hk[Class]	590   6
Abrasion Aa	140
Photoelastic Constant $\beta$ (nm/cm/10 <sup>6</sup> Pa)	1.52

Constants of Dispersion Formula	
A <sub>1</sub>	1.98280031E+00
A <sub>2</sub>	3.16758450E-01
A <sub>3</sub>	2.44472646E+00
B <sub>1</sub>	1.18987459E-02
B <sub>2</sub>	5.27156001E-02
B <sub>3</sub>	2.13220697E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	2.0
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.36
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	1.9	2.9	2.9	3.3	3.7	4.7	5.8
-20~ 0	2.0	3.0	3.0	3.4	3.8	4.9	6.0
0~20	2.0	3.0	3.1	3.5	3.9	5.0	6.3
20~40	2.0	3.1	3.2	3.6	4.1	5.2	6.5
40~60	2.0	3.2	3.3	3.7	4.2	5.4	6.8
60~80	2.1	3.3	3.4	3.8	4.3	5.6	7.0