S-LAH63

Code(d) **804396**
Code(e) **809393**

Refractive Index	n_d	**1.80440** 1.804398	Abbe Number	ν_d	**39.59**	Dispersion	n_F-n_C	**0.020320**
Refractive Index	n_e	1.809221	Abbe Number	ν_e	39.33	Dispersion	$n_{F'}$-$n_{C'}$	0.020573

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.75781
n_{1970}	1.97009	1.76505
n_{1530}	1.52958	1.77300
n_{1129}	1.12864	1.78056
n_t	1.01398	1.78325
n_s	0.85211	1.78820
$n_{A'}$	0.76819	1.79172
n_r	0.70652	1.79502
n_C	0.65627	1.79838
$n_{C'}$	0.64385	1.79932
n_{He-Ne}	0.6328	1.80021
n_D	0.58929	1.80422
n_d	0.58756	1.80440
n_e	0.54607	1.80922
n_F	0.48613	1.81870
$n_{F'}$	0.47999	1.81990
n_{He-Cd}	0.44157	1.82877
n_g	0.435835	1.83034
n_h	0.404656	1.84033
n_i	0.365015	1.85815

Constants of Dispersion Formula	
A_1	1.89458276E+00
A_2	2.68702978E-01
A_3	1.45705526E+00
B_1	1.02277048E-02
B_2	4.42801243E-02
B_3	1.04874927E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	1
Acid Resistance(Surface) Group SR	4.2
Phosphate Resistance PR	1.0

Mechanical Properties		
Young's Modulus E (10^8N/m^2)	1121	
Rigidity Modulus G (10^8N/m^2)	433	
Poisson's Ratio σ	0.295	
Knoop Hardness Hk[Class]	640	6
Abrasion Aa	82	
Photoelastic Constant β nm/(cm·10^5Pa)		2.18

Partial Dispersions	
n_C-n_t	0.015124
n_C-$n_{A'}$	0.006658
n_d-n_C	0.006022
n_e-n_C	0.010845
n_g-n_d	0.025940
n_g-n_F	0.011642
n_h-n_g	0.009994
n_i-n_g	0.027810
$n_{C'}$-n_t	0.016071
n_e-$n_{C'}$	0.009898
$n_{F'}$-n_e	0.010675
n_i-$n_{F'}$	0.038252

Relative Partial Dispersions	
$\theta_{C,t}$	0.7443
$\theta_{C,A'}$	0.3277
$\theta_{d,C}$	0.2964
$\theta_{e,C}$	0.5337
$\theta_{g,d}$	1.2766
$\theta_{g,F}$	0.5729
$\theta_{h,g}$	0.4918
$\theta_{i,g}$	1.3686
$\theta'_{C',t}$	0.7812
$\theta'_{e,C'}$	0.4811
$\theta'_{F',e}$	0.5189
$\theta'_{i,F'}$	1.8593

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0119
$\Delta\theta_{C,A'}$	0.0039
$\Delta\theta_{g,d}$	-0.0059
$\Delta\theta_{g,F}$	-0.0045
$\Delta\theta_{i,g}$	-0.0249

Thermal Properties		
Strain Point StP (℃)		558
Annealing Point AP (℃)		588
Transformation Temperature Tg (℃)		607
Yield Point At (℃)		630
Softening Point SP (℃)		675
Expansion Coefficients α (10^{-7}/℃)	(-30~+70℃)	58
	(+100~+300℃)	70
Thermal Conductivity λ W/(m·K)		0.849

Coloring			
λ_{80}	410	λ_5	340
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	374	$\lambda_{0.05}$	340

CCI		
B	G	R
0.00	1.31	1.39

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	
310	
320	
330	
340	0.06
350	0.31
360	0.59
370	0.76
380	0.86
390	0.909
400	0.937
420	0.965
440	0.976
460	0.983
480	0.988
500	0.992
550	0.997
600	0.998
650	0.998
700	0.998
800	0.999
900	0.998
1000	0.997
1200	0.997
1400	0.993
1600	0.992
1800	0.984
2000	0.963
2200	0.89
2400	0.70

Temperature Coefficients of Refractive Index							
Range of Temperature (℃)	Δn/ΔT relative (10^{-6}/℃)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	5.5	6.6	6.6	6.8	7.3	8.0	8.7
-20~ 0	5.7	6.7	6.7	6.9	7.3	8.1	8.9
0~20	5.8	6.8	6.8	7.0	7.5	8.3	9.1
20~40	5.9	6.9	6.9	7.2	7.6	8.5	9.4
40~60	6.2	7.1	7.2	7.5	7.8	8.8	9.7
60~80	6.4	7.3	7.4	7.7	8.1	9.1	10.1

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.34
Remarks	

OHARA 17-04

※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.