S-LAH63Q

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

Refractive Index	n_d	**1.80440** 1.804400	Abbe Number	ν_d **39.58**	Dispersion	n_F-n_C **0.020323**
Refractive Index	n_e	1.809222	Abbe Number	ν_e 39.31	Dispersion	$n_{F'}$-$n_{C'}$ 0.020586

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.76063
n_{1970}	1.97009	1.76695
n_{1530}	1.52958	1.77401
n_{1129}	1.12864	1.78098
n_t	1.01398	1.78355
n_s	0.85211	1.78834
$n_{A'}$	0.76819	1.79180
n_r	0.70652	1.79507
n_C	0.65627	1.79840
$n_{C'}$	0.64385	1.79934
n_{He-Ne}	0.6328	1.80023
n_D	0.58929	1.80422
n_d	0.58756	1.80440
n_e	0.54607	1.80922
n_F	0.48613	1.81872
$n_{F'}$	0.47999	1.81993
n_{He-Cd}	0.44157	1.82885
n_g	0.435835	1.83043
n_h	0.404656	1.84052
n_i	0.365015	1.85862

Constants of Dispersion Formula	
A_1	1.96723017E+00
A_2	1.94953915E-01
A_3	1.25386282E+00
B_1	1.10456086E-02
B_2	4.97137061E-02
B_3	1.04843520E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	51.2
Phosphate Resistance PR	1.0

Mechanical Properties		
Young's Modulus E (GPa)	102.6	
Rigidity Modulus G (GPa)	39.5	
Poisson's Ratio σ	0.300	
Knoop Hardness Hk[Class]	620	6
Abrasion Aa	121	

Partial Dispersions	
n_C-n_t	0.014851
n_C-$n_{A'}$	0.006597
n_d-n_C	0.006003
n_e-n_C	0.010825
n_g-n_d	0.026030
n_g-n_F	0.011710
n_h-n_g	0.010090
n_i-n_g	0.028188
n_C-n_t	0.015794
n_e-$n_{C'}$	0.009882
$n_{F'}$-n_e	0.010704
n_i-$n_{F'}$	0.038692

Relative Partial Dispersions	
$\theta_{C,t}$	0.7307
$\theta_{C,A'}$	0.3246
$\theta_{d,C}$	0.2954
$\theta_{e,C}$	0.5326
$\theta_{g,d}$	1.2808
$\theta_{g,F}$	0.5762
$\theta_{h,g}$	0.4965
$\theta_{i,g}$	1.3870
$\theta'_{C',t}$	0.7672
$\theta'_{e,C'}$	0.4800
$\theta'_{F',e}$	0.5200
$\theta'_{i,F'}$	1.8795

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	-0.0017
$\Delta\theta_{C,A'}$	0.0008
$\Delta\theta_{g,d}$	-0.0017
$\Delta\theta_{g,F}$	-0.0012
$\Delta\theta_{i,g}$	-0.0066

Thermal Properties		
Strain Point StP (℃)		626
Annealing Point AP (℃)		654
Transformation Temperature Tg (℃)		669
Yield Point At (℃)		701
Softening Point SP (℃)		732
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	79
	(+100~+300℃)	93
Thermal Conductivity λ W/(m·K)		0.738

Coloring			
λ_{80}	415	λ_5	345
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	378	$\lambda_{0.05}$	343

CCI		
B	G	R
0.00	1.51	1.56

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	
310	
320	
330	
340	0.01
350	0.14
360	0.44
370	0.69
380	0.82
390	0.89
400	0.927
420	0.959
440	0.973
460	0.981
480	0.987
500	0.991
550	0.996
600	0.996
650	0.996
700	0.997
800	0.998
900	0.998
1000	0.999
1200	0.999
1400	0.998
1600	0.995
1800	0.987
2000	0.968
2200	0.923
2400	0.77

Temperature Coefficients of Refractive Index							
Range of Temperature (℃)	Δn/ΔT relative ($10^{-6}$$K^{-1}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	0.4	1.2	1.2	1.5	1.8	2.5	3.3
-20~ 0	0.4	1.1	1.2	1.4	1.7	2.5	3.3
0~20	0.4	1.2	1.2	1.5	1.8	2.6	3.5
20~40	0.4	1.2	1.3	1.5	1.9	2.7	3.6
40~60	0.4	1.3	1.3	1.6	2.0	2.8	3.8
60~80	0.5	1.4	1.5	1.7	2.1	3.0	4.0

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	1.39
Specific Gravity d	4.45
Remarks	

OHARA 24-01

※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.