S-LAH71

Code(d) **850323**
Code(e) **856320**

Refractive Index	n_d	**1.85026** 1.850259	Abbe Number	ν_d	**32.27**	Dispersion	n_F-n_C **0.026349**
Refractive Index	n_e	1.856493	Abbe Number	ν_e	32.03	Dispersion	$n_{F'}$-$n_{C'}$ 0.026744

Refractive Indices		
λ(μm)		
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_{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_{He-Cd}	0.44157	1.88243
n_g	0.435835	1.88456
n_h	0.404656	1.89827
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1.98280031E+00
A_2	3.16758450E-01
A_3	2.44472646E+00
B_1	1.18987459E-02
B_2	5.27156001E-02
B_3	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

Mechanical Properties		
Young's Modulus E (GPa)	110.0	
Rigidity Modulus G (GPa)	42.9	
Poisson's Ratio σ	0.281	
Knoop Hardness Hk[Class]	590	6
Abrasion Aa	136	

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
$\theta'_{i,F'}$	

Deviation of Relative Dispersions Δθfrom "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
$\Delta\theta_{i,g}$	

Thermal Properties		
Strain Point StP (℃)		656
Annealing Point AP (℃)		685
Transformation Temperature Tg (℃)		707
Yield Point At (℃)		752
Softening Point SP (℃)		802
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	77
	(+100~+300℃)	91
Thermal Conductivity λ W/(m·K)		0.874

Coloring			
λ_{80}		λ_5	370
λ_{70}	425		

Internal transmission			
$\lambda_{0.80}$	417	$\lambda_{0.05}$	364

CCI		
B	G	R
0.00	6.64	6.89

Internal Transmittance	
λ(nm)	τ 10mm
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

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	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

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	1.52
Specific Gravity d	4.36
Remarks	

OHARA 23-05

※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.