

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		
$\lambda(\mu\text{m})$		
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	

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 (10^9N/m^2)	1100
Rigidity Modulus G (10^9N/m^2)	429
Poisson's Ratio σ	0.281
Knoop Hardness Hk[Class]	590 6
Abrasion Aa	136
Photoelastic Constant β nm/(cm · 10 ⁵ Pa)	1.52

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 $\Delta\theta$ 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
$\Delta\theta_{i,g}$	

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
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	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	
$\lambda(\text{nm})$	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 (°C)	$\Delta n/\Delta T$ relative ($10^{-6}/^\circ\text{C}$)						
	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

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.36
Remarks	

OHARA 17-04

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※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.