

S-LAH51

Code(d) **786442**

Code(e) **790439**

Refractive Index n_d	1.78590	Abbe Number ν_d	44.20	Dispersion n_F-n_C	0.017780
	1.785896				
Refractive Index n_e	1.790123	Abbe Number ν_e	43.95	Dispersion n_F-n_C'	0.017979

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.74265
n_{1970}	1.97009	1.74972
n_{1530}	1.52958	1.75740
n_{1129}	1.12864	1.76452
n_t	1.01398	1.76700
n_s	0.85211	1.77150
$n_{A'}$	0.76819	1.77466
n_r	0.70652	1.77761
n_C	0.65627	1.78058
$n_{C'}$	0.64385	1.78142
$n_{\text{He-Ne}}$	0.6328	1.78221
n_D	0.58929	1.78574
n_d	0.58756	1.78590
n_e	0.54607	1.79012
n_F	0.48613	1.79836
$n_{F'}$	0.47999	1.79940
$n_{\text{He-Cd}}$	0.44157	1.80704
n_g	0.435835	1.80838
n_h	0.404656	1.81687
n_i	0.365015	1.83175

Constants of Dispersion Formula	
A_1	1.82586991E+00
A_2	2.83023349E-01
A_3	1.35964319E+00
B_1	9.35297152E-03
B_2	3.73803057E-02
B_3	1.00655798E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	1~2
Acid Resistance(Surface) Group SR	4.0
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (GPa)	112.9
Rigidity Modulus G (GPa)	43.5
Poisson's Ratio σ	0.297
Knoop Hardness Hk[Class]	650 * 7
Abrasion Aa	80

Partial Dispersions	
n_C-n_t	0.013580
$n_C-n_{A'}$	0.005923
n_d-n_C	0.005312
n_e-n_C	0.009539
n_g-n_d	0.022480
n_g-n_F	0.010012
n_h-n_g	0.008492
n_i-n_g	0.023375
n_C-n_t	0.014419
$n_e-n_{C'}$	0.008700
$n_{F'}-n_e$	0.009279
$n_i-n_{F'}$	0.032349

Relative Partial Dispersions	
$\theta_{C,t}$	0.7638
$\theta_{C,A'}$	0.3331
$\theta_{d,C}$	0.2988
$\theta_{e,C}$	0.5365
$\theta_{g,d}$	1.2643
$\theta_{g,F}$	0.5631
$\theta_{h,g}$	0.4776
$\theta_{i,g}$	1.3147
$\theta'_{C,t}$	0.8020
$\theta'_{e,C}$	0.4839
$\theta'_{F,e}$	0.5161
$\theta'_{i,F'}$	1.7993

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0097
$\Delta \theta_{C,A'}$	0.0037
$\Delta \theta_{g,d}$	-0.0086
$\Delta \theta_{g,F}$	-0.0069
$\Delta \theta_{i,g}$	-0.0402

Thermal Properties	
Strain Point StP (°C)	568
Annealing Point AP (°C)	598
Transformation Temperature Tg (°C)	617
Yield Point At (°C)	641
Softening Point SP (°C)	677
Expansion Coefficients (-30~+70°C)	59
α (10^{-7}K^{-1}) (+100~+300°C)	72
Thermal Conductivity λ W/(m·K)	0.826

Coloring			
λ_{80}	390	λ_5	335
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	366	$\lambda_{0.05}$	333

CCI		
B	G	R
0.00	0.83	0.82

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	0.01
340	0.17
350	0.51
360	0.73
370	0.84
380	0.910
390	0.942
400	0.961
420	0.977
440	0.984
460	0.989
480	0.993
500	0.995
550	0.998
600	0.997
650	0.997
700	0.998
800	0.998
900	0.997
1000	0.996
1200	0.996
1400	0.991
1600	0.989
1800	0.981
2000	0.957
2200	0.89
2400	0.68

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative (10^{-6}K^{-1})						
	t	C'	He-Ne	D	e	F'	g
-40~-20		6.0		6.3	6.6	7.3	7.8
-20~ 0		6.0		6.3	6.6	7.3	7.9
0~20		6.1		6.4	6.7	7.4	8.1
20~40		6.2		6.5	6.8	7.6	8.3
40~60		6.4		6.7	7.0	7.8	8.6
60~80		6.6		6.9	7.2	8.1	8.9

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁹ Pa)	1.88
Specific Gravity d	4.40
Remarks	

OHARA 23-05

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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.