

S-NBH57

Code(d) **850300**

Code(e) **857298**

Refractive Index n_d	1.85025	Abbe Number ν_d	30.05	Dispersion n_F-n_C	0.028299
	1.850250				
Refractive Index n_e	1.856938	Abbe Number ν_e	29.82	Dispersion n_F-n_C'	0.028738

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.79733
n_{1970}	1.97009	1.80374
n_{1530}	1.52958	1.81127
n_{1129}	1.12864	1.81935
n_t	1.01398	1.82252
n_s	0.85211	1.82864
$n_{A'}$	0.76819	1.83319
n_r	0.70652	1.83754
n_C	0.65627	1.84204
$n_{C'}$	0.64385	1.84332
$n_{\text{He-Ne}}$	0.6328	1.84453
n_D	0.58929	1.85000
n_d	0.58756	1.85025
n_e	0.54607	1.85694
n_F	0.48613	1.87034
$n_{F'}$	0.47999	1.87206
$n_{\text{He-Cd}}$	0.44157	1.88495
n_g	0.435835	1.88726
n_h	0.404656	1.90220
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1.92026488E+00
A_2	3.71535240E-01
A_3	2.55205704E+00
B_1	1.18468028E-02
B_2	5.32105472E-02
B_3	2.04549300E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	1
Acid Resistance(Surface) Group SR	3.0
Phosphate Resistance PR	1.0

Mechanical Properties	
Young's Modulus E (GPa)	111.7
Rigidity Modulus G (GPa)	43.8
Poisson's Ratio σ	0.275
Knoop Hardness Hk(Class)	560 6
Abrasion Aa	143

Partial Dispersions	
n_C-n_t	0.019520
$n_C-n_{A'}$	0.008849
n_d-n_C	0.008213
n_e-n_C	0.014901
n_g-n_d	0.037005
n_g-n_F	0.016919
n_h-n_g	0.014947
n_i-n_g	
n_C-n_t	0.020801
$n_e-n_{C'}$	0.013620
$n_{F'}-n_e$	0.015118
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6898
$\theta_{C,A'}$	0.3127
$\theta_{d,C}$	0.2902
$\theta_{e,C}$	0.5266
$\theta_{g,d}$	1.3076
$\theta_{g,F}$	0.5979
$\theta_{h,g}$	0.5282
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7238
$\theta'_{e,C}$	0.4739
$\theta'_{F,e}$	0.5261
$\theta'_{i,F'}$	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0021
$\Delta \theta_{C,A'}$	0.0004
$\Delta \theta_{g,d}$	0.0053
$\Delta \theta_{g,F}$	0.0051
$\Delta \theta_{i,g}$	

Thermal Properties	
Strain Point StP (°C)	-
Annealing Point AP (°C)	-
Transformation Temperature Tg (°C)	625
Yield Point At (°C)	679
Softening Point SP (°C)	-
Expansion Coefficients (-30~+70°C)	77
α (10^{-7}K^{-1}) (+100~+300°C)	92
Thermal Conductivity λ W/(m·K)	0.988

Coloring			
λ_{80}		λ_5	355
λ_{70}	410		

Internal transmission			
$\lambda_{0.80}$	399	$\lambda_{0.05}$	355

CCI		
B	G	R
0.00	3.97	4.14

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	0.17
370	0.42
380	0.60
390	0.72
400	0.81
420	0.89
440	0.936
460	0.955
480	0.968
500	0.978
550	0.993
600	0.994
650	0.994
700	0.996
800	0.998
900	0.999
1000	0.999
1200	0.999
1400	0.998
1600	0.997
1800	0.992
2000	0.984
2200	0.968
2400	0.921

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	1.5	2.5	2.5	2.8	3.3	4.3	5.6
-20~ 0	1.5	2.5	2.6	2.9	3.4	4.5	5.9
0~20	1.4	2.5	2.6	3.0	3.4	4.7	6.1
20~40	1.4	2.6	2.6	3.0	3.5	4.8	6.3
40~60	1.5	2.7	2.7	3.1	3.7	5.0	6.6
60~80	1.6	2.8	2.9	3.3	3.9	5.3	6.9

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	1.95
Specific Gravity d	4.00
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.