

S-NBH56

Code(d) **855248**

Code(e) **863246**

Refractive Index n_d	1.85478 1.854780	Abbe Number ν_d	24.80	Dispersion n_F-n_C	0.034469
Refractive Index n_e	1.862904	Abbe Number ν_e	24.61	Dispersion n_F-n_C'	0.035057

Refractive Indices		
$\lambda(\mu m)$		
n_{2325}	2.32542	1.79234
n_{1970}	1.97009	1.79974
n_{1530}	1.52958	1.80847
n_{1129}	1.12864	1.81792
n_t	1.01398	1.82165
n_s	0.85211	1.82889
$n_{A'}$	0.76819	1.83429
n_r	0.70652	1.83949
n_C	0.65627	1.84488
$n_{C'}$	0.64385	1.84642
n_{He-Ne}	0.6328	1.84787
n_D	0.58929	1.85448
n_d	0.58756	1.85478
n_e	0.54607	1.86290
n_F	0.48613	1.87935
$n_{F'}$	0.47999	1.88147
n_{He-Cd}	0.44157	1.89755
n_g	0.435835	1.90045
n_h	0.404656	1.91944
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1.85191438E+00
A_2	4.31102852E-01
A_3	3.45278284E+00
B_1	1.32732620E-02
B_2	5.85944644E-02
B_3	2.39357089E+02

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

Mechanical Properties	
Young's Modulus E ($10^9 N/m^2$)	1067
Rigidity Modulus G ($10^9 N/m^2$)	427
Poisson's Ratio σ	0.249
Knoop Hardness Hk[Class]	560 6
Abrasion Aa	138
Photoelastic Constant β nm/(cm · $10^5 Pa$)	3.35

Partial Dispersions	
n_C-n_t	0.023230
$n_C-n_{A'}$	0.010586
n_d-n_C	0.009904
n_e-n_C	0.018028
n_g-n_d	0.045668
n_g-n_F	0.021103
n_h-n_g	0.018989
n_i-n_g	
n_C-n_t	0.024770
$n_e-n_{C'}$	0.016488
n_F-n_e	0.018569
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6739
$\theta_{C,A'}$	0.3071
$\theta_{d,C}$	0.2873
$\theta_{e,C}$	0.5230
$\theta_{g,d}$	1.3249
$\theta_{g,F}$	0.6122
$\theta_{h,g}$	0.5509
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7066
$\theta'_{e,C'}$	0.4703
$\theta'_{F,e}$	0.5297
$\theta'_{i,F'}$	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0109
$\Delta\theta_{C,A'}$	0.0012
$\Delta\theta_{g,d}$	0.0117
$\Delta\theta_{g,F}$	0.0109
$\Delta\theta_{i,g}$	

Thermal Properties	
Strain Point StP (°C)	
Annealing Point AP (°C)	
Transformation Temperature Tg (°C)	578
Yield Point At (°C)	612
Softening Point SP (°C)	
Expansion Coefficients (-30~+70°C)	77
α ($10^{-7}/°C$) (+100~+300°C)	94
Thermal Conductivity λ W/(m·K)	1.12

Coloring			
λ_{80}		λ_5	360
λ_{70}	395		

Internal transmission			
$\lambda_{0.80}$	389	$\lambda_{0.05}$	358

CCI		
B	G	R
0.00	2.57	2.76

Internal Transmittance	
$\lambda(nm)$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	0.11
370	0.44
380	0.69
390	0.81
400	0.87
420	0.933
440	0.958
460	0.970
480	0.978
500	0.983
550	0.993
600	0.996
650	0.996
700	0.997
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.999
1600	0.997
1800	0.993
2000	0.991
2200	0.977
2400	0.966

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative ($10^{-6}/°C$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	2.4	3.5	3.6	4.0	4.6	6.0	7.7
-20~ 0	2.3	3.6	3.7	4.1	4.7	6.3	8.1
0~20	2.3	3.6	3.7	4.2	4.8	6.5	8.5
20~40	2.3	3.7	3.8	4.3	4.9	6.7	8.7
40~60	2.3	3.8	3.9	4.4	5.1	6.8	9.0
60~80	2.4	3.9	4.0	4.5	5.2	7.1	9.4

Other Properties	
Bubble Quality Group B	B
Specific Gravity d	3.49
Remarks	

OHARA 17-04

OHARA Copyright© OHARA INC. All Rights Reserved.

※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.