S-NBH58

Code(d) **789284**
Code(e) **795282**

Refractive Index	n_d	**1.78880** 1.788800	Abbe Number	ν_d	**28.43**	Dispersion	n_F-n_C	**0.027747**
Refractive Index	n_e	1.795354	Abbe Number	ν_e	28.22	Dispersion	$n_{F'}$-$n_{C'}$	0.028184

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.73459
n_{1970}	1.97009	1.74170
n_{1530}	1.52958	1.74987
n_{1129}	1.12864	1.75829
n_t	1.01398	1.76149
n_s	0.85211	1.76759
$n_{A'}$	0.76819	1.77207
n_r	0.70652	1.77635
n_C	0.65627	1.78076
$n_{C'}$	0.64385	1.78201
$n_{He\text{-}Ne}$	0.6328	1.78319
n_D	0.58929	1.78856
n_d	0.58756	1.78880
n_e	0.54607	1.79535
n_F	0.48613	1.80850
$n_{F'}$	0.47999	1.81020
$n_{He\text{-}Cd}$	0.44157	1.82290
n_g	0.435835	1.82518
n_h	0.404656	1.83997
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1.71408219E+00
A_2	3.62966167E-01
A_3	2.56486266E+00
B_1	1.16812775E-02
B_2	5.40847347E-02
B_3	1.88785700E+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	1.0
Phosphate Resistance PR	1.0

Mechanical Properties		
Young's Modulus E (GPa)	105.1	
Rigidity Modulus G (GPa)	42.3	
Poisson's Ratio σ	0.244	
Knoop Hardness Hk[Class]	590	6
Abrasion Aa	131	

Partial Dispersions	
n_C-n_t	0.019265
n_C-$n_{A'}$	0.008684
n_d-n_C	0.008043
n_e-n_C	0.014597
n_g-n_d	0.036376
n_g-n_F	0.016672
n_h-n_g	0.014799
n_i-n_g	
n_C-n_t	0.020520
n_e-$n_{C'}$	0.013342
n_F-n_e	0.014842
n_i-$n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6943
$\theta_{C,A'}$	0.3130
$\theta_{d,C}$	0.2899
$\theta_{e,C}$	0.5261
$\theta_{g,d}$	1.3110
$\theta_{g,F}$	0.6009
$\theta_{h,g}$	0.5334
$\theta_{i,g}$	
$\theta'_{C',t}$	0.7281
$\theta'_{e,C'}$	0.4734
$\theta'_{F',e}$	0.5266
$\theta'_{i,F'}$	

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0142
$\Delta\theta_{C,A'}$	0.0027
$\Delta\theta_{g,d}$	0.0053
$\Delta\theta_{g,F}$	0.0054
$\Delta\theta_{i,g}$	

Thermal Properties		
Strain Point StP (℃)		515
Annealing Point AP (℃)		540
Transformation Temperature Tg (℃)		560
Yield Point At (℃)		600
Softening Point SP (℃)		652
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	74
	(+100~+300℃)	95
Thermal Conductivity λ W/(m·K)		1.13

Coloring			
λ_{80}	410	λ_5	345
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	376	$\lambda_{0.05}$	344

CCI		
B	G	R
0.00	1.27	1.35

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	0.14
360	0.48
370	0.73
380	0.85
390	0.907
400	0.936
420	0.966
440	0.979
460	0.985
480	0.989
500	0.992
550	0.997
600	0.998
650	0.998
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.997
1600	0.996
1800	0.992
2000	0.987
2200	0.965
2400	0.946

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	3.3	4.2	4.3	4.6	5.1	6.1	7.3
-20~ 0	3.2	4.3	4.3	4.7	5.1	6.3	7.6
0~20	3.2	4.3	4.4	4.7	5.2	6.5	7.9
20~40	3.2	4.4	4.4	4.8	5.3	6.6	8.1
40~60	3.2	4.4	4.5	4.9	5.5	6.8	8.3
60~80	3.3	4.6	4.6	5.1	5.6	7.0	8.6

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	3.15
Specific Gravity d	3.33
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.