

S-BAH11

Code(d) **667483**

Code(e) **670480**

Refractive Index n_d	1.66672 1.666718	Abbe Number ν_d	48.32	Dispersion n_F-n_C	0.013797
Refractive Index n_e	1.670000	Abbe Number ν_e	48.04	Dispersion n_F-n_C'	0.013948

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.63328
n_{1970}	1.97009	1.63866
n_{1530}	1.52958	1.64456
n_{1129}	1.12864	1.65008
n_t	1.01398	1.65201
n_s	0.85211	1.65551
$n_{A'}$	0.76819	1.65798
n_r	0.70652	1.66027
n_C	0.65627	1.66259
$n_{C'}$	0.64385	1.66324
$n_{\text{He-Ne}}$	0.6328	1.66385
n_D	0.58929	1.66660
n_d	0.58756	1.66672
n_e	0.54607	1.67000
n_F	0.48613	1.67639
$n_{F'}$	0.47999	1.67719
$n_{\text{He-Cd}}$	0.44157	1.68309
n_g	0.435835	1.68412
n_h	0.404656	1.69067
n_i	0.365015	1.70213

Constants of Dispersion Formula	
A_1	1.57138860E+00
A_2	1.47869313E-01
A_3	1.28092846E+00
B_1	9.10807936E-03
B_2	4.02401684E-02
B_3	1.30399367E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	52.2
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (10^9N/m^2)	929
Rigidity Modulus G (10^9N/m^2)	365
Poisson's Ratio σ	0.274
Knoop Hardness Hk[Class]	560 6
Abrasion Aa	153
Photoelastic Constant β nm/(cm \cdot 10 5 Pa)	2.06

Partial Dispersions	
n_C-n_t	0.010576
$n_C-n_{A'}$	0.004611
n_d-n_C	0.004129
n_e-n_C	0.007411
n_g-n_d	0.017407
n_g-n_F	0.007739
n_h-n_g	0.006549
n_i-n_g	0.018002
n_C-n_t	0.011228
$n_e-n_{C'}$	0.006759
n_F-n_e	0.007189
$n_i-n_{F'}$	0.024938

Relative Partial Dispersions	
$\theta_{C,t}$	0.7665
$\theta_{C,A'}$	0.3342
$\theta_{d,C}$	0.2993
$\theta_{e,C}$	0.5371
$\theta_{g,d}$	1.2617
$\theta_{g,F}$	0.5609
$\theta_{h,g}$	0.4747
$\theta_{i,g}$	1.3048
$\theta'_{C,t}$	0.8050
$\theta'_{e,C'}$	0.4846
$\theta'_{F,e}$	0.5154
$\theta'_{i,F'}$	1.7879

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0069
$\Delta\theta_{C,A'}$	-0.0002
$\Delta\theta_{g,d}$	-0.0027
$\Delta\theta_{g,F}$	-0.0024
$\Delta\theta_{i,g}$	-0.0156

Thermal Properties	
Strain Point StP ($^{\circ}\text{C}$)	593
Annealing Point AP ($^{\circ}\text{C}$)	617
Transformation Temperature Tg ($^{\circ}\text{C}$)	629
Yield Point At ($^{\circ}\text{C}$)	675
Softening Point SP ($^{\circ}\text{C}$)	738
Expansion Coefficients (-30~+70 $^{\circ}\text{C}$)	69
α ($10^{-7}/^{\circ}\text{C}$) (+100~+300 $^{\circ}\text{C}$)	82
Thermal Conductivity λ W/(m \cdot K)	0.858

Coloring			
λ_{80}	380	λ_5	340
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	375	$\lambda_{0.05}$	340

CCI		
B	G	R
0.00	0.98	0.94

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	0.04
350	0.27
360	0.56
370	0.75
380	0.86
390	0.922
400	0.952
420	0.975
440	0.982
460	0.987
480	0.991
500	0.994
550	0.997
600	0.995
650	0.995
700	0.996
800	0.997
900	0.997
1000	0.997
1200	0.998
1400	0.994
1600	0.995
1800	0.988
2000	0.976
2200	0.936
2400	0.84

Temperature Coefficients of Refractive Index							
Range of Temperature ($^{\circ}\text{C}$)	$\Delta n/\Delta T$ relative ($10^{-6}/^{\circ}\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	3.3	3.7	3.7	3.9	4.1	4.6	5.1
-20~ 0	3.3	3.8	3.8	4.0	4.2	4.7	5.2
0~20	3.3	3.8	3.9	4.1	4.3	4.8	5.4
20~40	3.3	3.9	3.9	4.1	4.4	4.9	5.5
40~60	3.4	4.0	4.0	4.2	4.5	5.0	5.6
60~80	3.4	4.0	4.1	4.3	4.6	5.1	5.8

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.59
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.