

S-BAH27

Code(d) **702412**

Code(e) **706410**

Refractive Index n_d	1.70154 1.701536	Abbe Number ν_d	41.24	Dispersion n_F-n_C	0.017012
Refractive Index n_e	1.705571	Abbe Number ν_e	40.95	Dispersion n_F-n_C'	0.017228

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.66253
n_{1970}	1.97009	1.66858
n_{1530}	1.52958	1.67526
n_{1129}	1.12864	1.68160
n_t	1.01398	1.68386
n_s	0.85211	1.68800
$n_{A'}$	0.76819	1.69094
n_r	0.70652	1.69370
n_C	0.65627	1.69650
$n_{C'}$	0.64385	1.69729
$n_{\text{He-Ne}}$	0.6328	1.69804
n_D	0.58929	1.70139
n_d	0.58756	1.70154
n_e	0.54607	1.70557
n_F	0.48613	1.71351
$n_{F'}$	0.47999	1.71452
$n_{\text{He-Cd}}$	0.44157	1.72200
n_g	0.435835	1.72332
n_h	0.404656	1.73180
n_i	0.365015	1.74712

Constants of Dispersion Formula	
A_1	1.68939052E+00
A_2	1.33081013E-01
A_3	1.41165515E+00
B_1	1.03598193E-02
B_2	5.33982239E-02
B_3	1.26515503E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	4.0
Phosphate Resistance PR	1.0

Mechanical Properties	
Young's Modulus E (10^9N/m^2)	936
Rigidity Modulus G (10^8N/m^2)	368
Poisson's Ratio σ	0.272
Knoop Hardness Hk[Class]	580 6
Abrasion Aa	129
Photoelastic Constant β (nm/cm/ 10^9Pa)	2.18

Partial Dispersions	
n_C-n_t	0.012641
$n_C-n_{A'}$	0.005561
n_d-n_C	0.005033
n_e-n_C	0.009068
n_g-n_d	0.021787
n_g-n_F	0.009808
n_h-n_g	0.008480
n_i-n_g	0.023797
n_C-n_t	0.013433
$n_e-n_{C'}$	0.008276
n_F-n_e	0.008952
$n_i-n_{F'}$	0.032597

Relative Partial Dispersions	
$\theta_{C,t}$	0.7431
$\theta_{C,A'}$	0.3269
$\theta_{d,C}$	0.2958
$\theta_{e,C}$	0.5330
$\theta_{g,d}$	1.2807
$\theta_{g,F}$	0.5765
$\theta_{h,g}$	0.4985
$\theta_{i,g}$	1.3988
$\theta'_{C,t}$	0.7797
$\theta'_{e,C'}$	0.4804
$\theta'_{F,e}$	0.5196
$\theta'_{i,F'}$	1.8921

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0029
$\Delta\theta_{C,A'}$	0.0011
$\Delta\theta_{g,d}$	0.0016
$\Delta\theta_{g,F}$	0.0018
$\Delta\theta_{i,g}$	0.0191

Thermal Properties	
Strain Point StP ($^{\circ}\text{C}$)	611
Annealing Point AP ($^{\circ}\text{C}$)	636
Transformation Temperature Tg ($^{\circ}\text{C}$)	647
Yield Point At ($^{\circ}\text{C}$)	682
Softening Point SP ($^{\circ}\text{C}$)	749
Expansion Coefficients (-30~+70 $^{\circ}\text{C}$)	64
α ($10^{-7}/^{\circ}\text{C}$) (+100~+300 $^{\circ}\text{C}$)	75
Thermal Conductivity k (W/m·K)	0.869

Coloring			
λ_{80}	400	λ_5	350
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	388	$\lambda_{0.05}$	356

CCI		
B	G	R
0.00	1.99	2.01

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	0.16
370	0.47
380	0.70
390	0.83
400	0.89
420	0.955
440	0.971
460	0.979
480	0.985
500	0.989
550	0.995
600	0.994
650	0.994
700	0.996
800	0.998
900	0.998
1000	0.998
1200	0.998
1400	0.993
1600	0.994
1800	0.987
2000	0.974
2200	0.921
2400	0.81

Temperature Coefficients of Refractive Index							
Range of Temperature ($^{\circ}\text{C}$)	dn/dT relative ($10^{-6}/^{\circ}\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	3.2	3.7	3.7	4.0	4.2	4.8	5.5
-20~ 0	3.3	3.8	3.9	4.1	4.4	5.0	5.7
0~20	3.4	4.0	4.0	4.2	4.5	5.2	5.9
20~40	3.5	4.1	4.1	4.4	4.7	5.4	6.2
40~60	3.5	4.2	4.3	4.5	4.8	5.6	6.4
60~80	3.7	4.4	4.4	4.6	5.0	5.8	6.6

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.67
Remarks	

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