

S-NBH53V

Code(d) **738323**

Code(e) **743321**

Refractive Index n_d	1.73800 1.738000	Abbe Number ν_d	32.33	Dispersion n_F-n_C	0.022830
Refractive Index n_e	1.743402	Abbe Number ν_e	32.10	Dispersion n_F-n_C	0.023159

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.69006
n_{1970}	1.97009	1.69688
n_{1530}	1.52958	1.70457
n_{1129}	1.12864	1.71218
n_t	1.01398	1.71499
n_s	0.85211	1.72024
$n_{A'}$	0.76819	1.72404
n_r	0.70652	1.72764
n_C	0.65627	1.73132
$n_{C'}$	0.64385	1.73237
$n_{\text{He-Ne}}$	0.6328	1.73335
n_D	0.58929	1.73780
n_d	0.58756	1.73800
n_e	0.54607	1.74340
n_F	0.48613	1.75415
$n_{F'}$	0.47999	1.75553
$n_{\text{He-Cd}}$	0.44157	1.76579
n_g	0.435835	1.76762
n_h	0.404656	1.77943
n_i	0.365015	1.80114

Constants of Dispersion Formula	
A_1	1.65444141E+00
A_2	2.67453927E-01
A_3	2.14530347E+00
B_1	1.12485533E-02
B_2	5.20272740E-02
B_3	1.67366100E+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 (10^9N/m^2)	1027
Rigidity Modulus G (10^8N/m^2)	415
Poisson's Ratio σ	0.237
Knoop Hardness Hk[Class]	600 6
Abrasion Aa	110
Photoelastic Constant β (nm/cm/ 10^9Pa)	2.99

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dT relative ($10^{-6}/^\circ\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	4.0	4.8	4.8	5.1	5.5	6.3	7.3
-20~ 0	3.9	4.7	4.8	5.1	5.5	6.4	7.5
0~20	3.8	4.7	4.8	5.1	5.5	6.5	7.6
20~40	3.8	4.7	4.8	5.1	5.5	6.6	7.7
40~60	3.8	4.8	4.9	5.2	5.6	6.7	7.8
60~80	3.8	4.9	4.9	5.3	5.8	6.9	8.1

Partial Dispersions	
n_C-n_t	0.016332
$n_C-n_{A'}$	0.007282
n_d-n_C	0.006678
n_e-n_C	0.012080
n_g-n_d	0.029621
n_g-n_F	0.013469
n_h-n_g	0.011812
n_i-n_g	0.033515
n_C-n_t	0.017378
$n_e-n_{C'}$	0.011034
n_F-n_e	0.012125
$n_i-n_{F'}$	0.045609

Relative Partial Dispersions	
$\theta_{C,t}$	0.7154
$\theta_{C,A'}$	0.3190
$\theta_{d,C}$	0.2925
$\theta_{e,C}$	0.5291
$\theta_{g,d}$	1.2975
$\theta_{g,F}$	0.5900
$\theta_{h,g}$	0.5174
$\theta_{i,g}$	1.4680
$\theta'_{C,t}$	0.7504
$\theta'_{e,C'}$	0.4764
$\theta'_{F,e}$	0.5236
$\theta'_{i,F'}$	1.9694

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0170
$\Delta\theta_{C,A'}$	0.0040
$\Delta\theta_{g,d}$	-0.0001
$\Delta\theta_{g,F}$	0.0008
$\Delta\theta_{i,g}$	0.0137

Thermal Properties	
Strain Point StP (°C)	501
Annealing Point AP (°C)	523
Transformation Temperature Tg (°C)	538
Yield Point At (°C)	582
Softening Point SP (°C)	640
Expansion Coefficients (-30~+70°C)	71
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	93
Thermal Conductivity k (W/m·K)	1.13

Coloring			
λ_{80}	385	λ_5	330
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	361	$\lambda_{0.05}$	331

CCI		
B	G	R
0.00	0.61	0.67

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	0.03
340	0.28
350	0.61
360	0.79
370	0.88
380	0.927
390	0.952
400	0.968
420	0.982
440	0.988
460	0.991
480	0.993
500	0.995
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	0.995
1600	0.995
1800	0.990
2000	0.984
2200	0.951
2400	0.928

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.19
Remarks	

OHARA 17-04