

S-BSM16

Code(d) **620603**

Code(e) **623601**

Refractive Index n_d	1.62041 1.620411	Abbe Number ν_d	60.29	Dispersion n_F-n_C	0.010290
Refractive Index n_e	1.622865	Abbe Number ν_e	60.03	Dispersion n_F-n_C'	0.010376

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.58957
n_{1970}	1.97009	1.59545
n_{1530}	1.52958	1.60168
n_{1129}	1.12864	1.60702
n_t	1.01398	1.60874
n_s	0.85211	1.61170
$n_{A'}$	0.76819	1.61368
n_r	0.70652	1.61549
n_C	0.65627	1.61728
$n_{C'}$	0.64385	1.61778
$n_{\text{He-Ne}}$	0.6328	1.61824
n_D	0.58929	1.62032
n_d	0.58756	1.62041
n_e	0.54607	1.62287
n_F	0.48613	1.62757
$n_{F'}$	0.47999	1.62815
$n_{\text{He-Cd}}$	0.44157	1.63241
n_g	0.435835	1.63315
n_h	0.404656	1.63778
n_i	0.365015	1.64567

Constants of Dispersion Formula	
A_1	1.14490383E+00
A_2	4.39563911E-01
A_3	1.27688079E+00
B_1	1.37034916E-02
B_2	-1.86514205E-03
B_3	1.19535585E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	3
Acid Resistance(Powder) Group RA(P)	5
Weathering Resistance(Surface) Group W(S)	2~3
Acid Resistance(Surface) Group SR	53.2
Phosphate Resistance PR	4.2

Mechanical Properties	
Young's Modulus E (10^9N/m^2)	878
Rigidity Modulus G (10^9N/m^2)	348
Poisson's Ratio σ	0.262
Knoop Hardness Hk[Class]	570 6
Abrasion Aa	155
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	1.81

Partial Dispersions	
n_C-n_t	0.008531
$n_C-n_{A'}$	0.003595
n_d-n_C	0.003135
n_e-n_C	0.005589
n_g-n_d	0.012739
n_g-n_F	0.005584
n_h-n_g	0.004632
n_i-n_g	0.012520
n_C-n_t	0.009030
$n_e-n_{C'}$	0.005090
n_F-n_e	0.005286
$n_i-n_{F'}$	0.017519

Relative Partial Dispersions	
$\theta_{C,t}$	0.8291
$\theta_{C,A'}$	0.3494
$\theta_{d,C}$	0.3047
$\theta_{e,C}$	0.5431
$\theta_{g,d}$	1.2380
$\theta_{g,F}$	0.5427
$\theta_{h,g}$	0.4501
$\theta_{i,g}$	1.2167
$\theta'_{C,t}$	0.8703
$\theta'_{e,C'}$	0.4906
$\theta'_{F,e}$	0.5094
$\theta'_{i,F'}$	1.6884

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0005
$\Delta\theta_{C,A'}$	0.0004
$\Delta\theta_{g,d}$	-0.0015
$\Delta\theta_{g,F}$	-0.0012
$\Delta\theta_{i,g}$	-0.0035

Thermal Properties	
Strain Point StP (°C)	606
Annealing Point AP (°C)	634
Transformation Temperature Tg (°C)	657
Yield Point At (°C)	689
Softening Point SP (°C)	738
Expansion Coefficients (-30~+70°C)	67
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	76
Thermal Conductivity λ W/(m·K)	0.835

Coloring			
λ_{80}	350	λ_5	305
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	346	$\lambda_{0.05}$	312

CCI		
B	G	R
0.00	0.28	0.23

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	0.01
320	0.18
330	0.49
340	0.72
350	0.85
360	0.924
370	0.959
380	0.976
390	0.984
400	0.989
420	0.992
440	0.993
460	0.994
480	0.996
500	0.997
550	0.999
600	0.998
650	0.997
700	0.998
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.992
1600	0.995
1800	0.987
2000	0.972
2200	0.911
2400	0.79

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative ($10^{-6}/^\circ\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	1.2	1.4	1.5	1.6	1.7	1.9	2.2
-20~ 0	1.2	1.5	1.6	1.7	1.8	2.1	2.3
0~20	1.3	1.6	1.6	1.8	1.9	2.2	2.5
20~40	1.4	1.7	1.7	1.9	2.0	2.3	2.6
40~60	1.4	1.8	1.8	2.0	2.1	2.4	2.7
60~80	1.6	1.9	1.9	2.1	2.2	2.5	2.9

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.