

S-BSM25

Code(d) **658509**

Code(e) **662506**

Refractive Index n_d	1.65844 1.658441	Abbe Number ν_d	50.88	Dispersion n_F-n_C	0.012942
Refractive Index n_e	1.661522	Abbe Number ν_e	50.59	Dispersion $n_F-n_{C'}$	0.013076

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.62613
n_{1970}	1.97009	1.63145
n_{1530}	1.52958	1.63727
n_{1129}	1.12864	1.64264
n_t	1.01398	1.64450
n_s	0.85211	1.64785
$n_{A'}$	0.76819	1.65019
n_r	0.70652	1.65237
n_C	0.65627	1.65455
$n_{C'}$	0.64385	1.65517
$n_{\text{He-Ne}}$	0.6328	1.65574
n_D	0.58929	1.65833
n_d	0.58756	1.65844
n_e	0.54607	1.66152
n_F	0.48613	1.66749
$n_{F'}$	0.47999	1.66824
$n_{\text{He-Cd}}$	0.44157	1.67373
n_g	0.435835	1.67469
n_h	0.404656	1.68074
n_i	0.365015	1.69121

Constants of Dispersion Formula	
A_1	1.34814257E+00
A_2	3.47530319E-01
A_3	1.38798368E+00
B_1	6.95364366E-03
B_2	2.77863478E-02
B_3	1.42138122E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	2
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	5.2
Phosphate Resistance PR	1.0

Mechanical Properties	
Young's Modulus E (GPa)	95.1
Rigidity Modulus G (GPa)	37.4
Poisson's Ratio σ	0.272
Knoop Hardness Hk(Class)	620 6
Abrasion Aa	136

Partial Dispersions	
n_C-n_t	0.010049
$n_C-n_{A'}$	0.004361
n_d-n_C	0.003888
n_e-n_C	0.006969
n_g-n_d	0.016250
n_g-n_F	0.007196
n_h-n_g	0.006049
n_i-n_g	0.016516
n_C-n_t	0.010664
$n_e-n_{C'}$	0.006354
$n_{F'}-n_e$	0.006722
$n_i-n_{F'}$	0.022963

Relative Partial Dispersions	
$\theta_{C,t}$	0.7765
$\theta_{C,A'}$	0.3370
$\theta_{d,C}$	0.3004
$\theta_{e,C}$	0.5385
$\theta_{g,d}$	1.2556
$\theta_{g,F}$	0.5560
$\theta_{h,g}$	0.4674
$\theta_{i,g}$	1.2762
$\theta'_{C,t}$	0.8155
$\theta'_{e,C'}$	0.4859
$\theta'_{F',e}$	0.5141
$\theta'_{i,F'}$	1.7561

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0089
$\Delta\theta_{C,A'}$	-0.0005
$\Delta\theta_{g,d}$	-0.0034
$\Delta\theta_{g,F}$	-0.0031
$\Delta\theta_{i,g}$	-0.0228

Thermal Properties	
Strain Point StP (°C)	605
Annealing Point AP (°C)	630
Transformation Temperature Tg (°C)	638
Yield Point At (°C)	686
Softening Point SP (°C)	760
Expansion Coefficients (-30~+70°C)	68
α (10^{-7}K^{-1}) (+100~+300°C)	82
Thermal Conductivity λ W/(m·K)	0.891

Coloring			
λ_{80}	375	λ_5	330
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	367	$\lambda_{0.05}$	331

CCI		
B	G	R
0.00	0.71	0.70

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	0.03
340	0.19
350	0.48
360	0.71
370	0.84
380	0.910
390	0.945
400	0.964
420	0.980
440	0.984
460	0.988
480	0.991
500	0.994
550	0.996
600	0.995
650	0.995
700	0.996
800	0.997
900	0.997
1000	0.996
1200	0.997
1400	0.995
1600	0.995
1800	0.989
2000	0.980
2200	0.947
2400	0.87

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n / \Delta T$ relative (10^{-6}K^{-1})						
	t	C'	He-Ne	D	e	F'	g
-40~-20	3.4	3.8	3.9	4.0	4.2	4.7	5.1
-20~ 0	3.5	3.9	3.9	4.1	4.3	4.8	5.3
0~20	3.6	4.0	4.0	4.2	4.4	4.9	5.4
20~40	3.6	4.1	4.1	4.3	4.5	5.0	5.5
40~60	3.7	4.2	4.2	4.4	4.6	5.1	5.7
60~80	3.8	4.2	4.3	4.5	4.7	5.2	5.8

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	2.08
Specific Gravity d	3.50
Remarks	

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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.