

# S-BSM25

Code(d) **658509**

Code(e) **662506**

Refractive Index $n_d$	<b>1.65844</b> 1.658441	Abbe Number $\nu_d$	<b>50.88</b>	Dispersion $n_F-n_C$	<b>0.012942</b>
Refractive Index $n_e$	1.661522	Abbe Number $\nu_e$	50.59	Dispersion $n_F-n_{C'}$	0.013076

Refractive Indices		
$\lambda(\mu m)$		
$n_{2325}$	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
$n_{He-Ne}$	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
$n_{He-Cd}$	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 ( $10^9 N/m^2$ )	951
Rigidity Modulus G ( $10^9 N/m^2$ )	374
Poisson's Ratio $\sigma$	0.272
Knoop Hardness Hk[Class]	560   6
Abrasion Aa	136
Photoelastic Constant $\beta$ nm/(cm · $10^5 Pa$ )	2.08

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
$\alpha$ ( $10^{-7}/^\circ C$ ) (+100~+300°C)	82
Thermal Conductivity $\lambda$ W/(m·K)	0.891

Coloring			
$\lambda_{80}$	375	$\lambda_5$	330
$\lambda_{70}$			

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

CCI		
B	G	R
0.00	0.71	0.70

Internal Transmittance	
$\lambda(nm)$	$\tau$ 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 ( $10^{-6}/^\circ C$ )						
	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	
Bubble Quality Group B	
Specific Gravity d	3.50
Remarks	

OHARA 17-04

OHARA Copyright© OHARA INC. All Rights Reserved.

※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.