

S-BSM22

Code(d) **622532**

Code(e) **625529**

Refractive Index n_d	1.62230 1.622296	Abbe Number v_d	53.2 53.17	Dispersion n_F-n_C	0.01170 0.011704
Refractive Index n_e	1.625083	Abbe Number v_e	52.88	Dispersion n_F-n_C'	0.011821

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.59157
n_{1970}	1.97009	1.59687
n_{1530}	1.52958	1.60260
n_{1129}	1.12864	1.60778
n_t	1.01398	1.60953
n_s	0.85211	1.61264
$n_{A'}$	0.76819	1.61479
n_r	0.70652	1.61678
n_C	0.65627	1.61877
$n_{C'}$	0.64385	1.61933
$n_{\text{He-Ne}}$	0.6328	1.61985
n_D	0.58929	1.62219
n_d	0.58756	1.62230
n_e	0.54607	1.62508
n_F	0.48613	1.63047
$n_{F'}$	0.47999	1.63115
$n_{\text{He-Cd}}$	0.44157	1.63610
n_g	0.435835	1.63696
n_h	0.404656	1.64241
n_i	0.365015	1.65185

Partial Dispersions	
n_C-n_t	0.009237
$n_C-n_{A'}$	0.003977
n_d-n_C	0.003526
n_e-n_C	0.006313
n_g-n_d	0.014664
n_g-n_F	0.006486
n_h-n_g	0.005451
n_i-n_g	0.014894
n_C-n_t	0.009796
$n_e-n_{C'}$	0.005754
$n_{F'-n_e}$	0.006067
$n_i-n_{F'}$	0.020704

Relative Partial Dispersions	
$\theta_{C,t}$	0.7892
$\theta_{C,A'}$	0.3398
$\theta_{d,C}$	0.3013
$\theta_{e,C}$	0.5394
$\theta_{g,d}$	1.2529
$\theta_{g,F}$	0.5542
$\theta_{h,g}$	0.4657
$\theta_{i,g}$	1.2726
$\theta'_{C,t}$	0.8287
$\theta'_{e,C'}$	0.4868
$\theta'_{F',e}$	0.5132
$\theta'_{i,F}$	1.7515

Thermal Properties	
Strain Point StP (°C)	637
Annealing Point AP (°C)	663
Transformation Temperature Tg (°C)	685
Yield Point At (°C)	726
Softening Point SP (°C)	822
Expansion Coefficients (-30~+70°C)	66
α (10 ⁻⁷ /°C) (+100~+300°C)	76
Thermal Conductivity k (W/m·K)	0.916

Coloring			
λ_{80}	38	λ_5	34
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	0.08
350	0.37
360	0.65
370	0.81
380	0.901
390	0.942
400	0.964
420	0.981
440	0.985
460	0.988
480	0.991
500	0.994
550	0.997
600	0.995
650	0.994
700	0.996
800	0.998
900	0.998
1000	0.997
1200	0.998
1400	0.993
1600	0.995
1800	0.990
2000	0.980
2200	0.938
2400	0.87

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0070
$\Delta\theta_{C,A'}$	-0.0005
$\Delta\theta_{g,d}$	-0.0014
$\Delta\theta_{g,F}$	-0.0012
$\Delta\theta_{i,g}$	-0.0072

Mechanical Properties	
Young's Modulus E (10 ⁸ N/m ²)	874
Rigidity Modulus G (10 ⁸ N/m ²)	345
Poisson's Ratio σ	0.265
Knoop Hardness Hk[Class]	580 6
Abrasion Aa	120
Photoelastic Constant β (nm/cm/10 ⁵ Pa)	1.97

Constants of Dispersion Formula	
A ₁	1.44305741E+00
A ₂	1.40786358E-01
A ₃	1.26093951E+00
B ₁	8.19208910E-03
B ₂	3.56911455E-02
B ₃	1.31959337E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	2
Weathering Resistance(Surface) Group W(S)	2 ~ 3
Acid Resistance(Surface) Group SR	3.2
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.24
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative (10 ⁻⁶ /°C)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	3.0	3.4	3.4	3.6	3.7	4.1	4.4
-20~0	3.0	3.4	3.4	3.6	3.8	4.1	4.5
0~20	3.1	3.5	3.5	3.6	3.8	4.2	4.6
20~40	3.1	3.5	3.6	3.7	3.9	4.3	4.8
40~60	3.1	3.6	3.6	3.7	4.0	4.4	4.9
60~80	3.1	3.7	3.7	3.8	4.0	4.5	5.0