

S-BSM28

Code(d) **618498**

Code(e) **621495**

Refractive Index n_d	1.61772 1.617722	Abbe Number ν_d	49.81	Dispersion n_F-n_C	0.012401
Refractive Index n_e	1.620671	Abbe Number ν_e	49.52	Dispersion $n_F-n_{C'}$	0.012534

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.58652
n_{1970}	1.97009	1.59173
n_{1530}	1.52958	1.59740
n_{1129}	1.12864	1.60260
n_t	1.01398	1.60439
n_s	0.85211	1.60760
$n_{A'}$	0.76819	1.60984
n_r	0.70652	1.61192
n_C	0.65627	1.61401
$n_{C'}$	0.64385	1.61459
$n_{\text{He-Ne}}$	0.6328	1.61514
n_D	0.58929	1.61761
n_d	0.58756	1.61772
n_e	0.54607	1.62067
n_F	0.48613	1.62641
$n_{F'}$	0.47999	1.62713
$n_{\text{He-Cd}}$	0.44157	1.63242
n_g	0.435835	1.63335
n_h	0.404656	1.63924
n_i	0.365015	1.64953

Constants of Dispersion Formula	
A_1	1.43822841E+00
A_2	1.28100017E-01
A_3	1.34355530E+00
B_1	8.59779750E-03
B_2	4.08617854E-02
B_3	1.43709890E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	2
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	51.2
Phosphate Resistance PR	3.0

Mechanical Properties	
Young's Modulus E (GPa)	85.3
Rigidity Modulus G (GPa)	33.9
Poisson's Ratio σ	0.258
Knoop Hardness Hk(Class)	560 6
Abrasion Aa	176

Partial Dispersions	
n_C-n_t	0.009612
$n_C-n_{A'}$	0.004166
n_d-n_C	0.003717
n_e-n_C	0.006666
n_g-n_d	0.015632
n_g-n_F	0.006948
n_h-n_g	0.005882
n_i-n_g	0.016179
n_C-n_t	0.010200
$n_e-n_{C'}$	0.006078
$n_{F'}-n_e$	0.006456
$n_i-n_{F'}$	0.022406

Relative Partial Dispersions	
$\theta_{C,t}$	0.7751
$\theta_{C,A'}$	0.3359
$\theta_{d,C}$	0.2997
$\theta_{e,C}$	0.5375
$\theta_{g,d}$	1.2605
$\theta_{g,F}$	0.5603
$\theta_{h,g}$	0.4743
$\theta_{i,g}$	1.3047
$\theta'_{C,t}$	0.8138
$\theta'_{e,C'}$	0.4849
$\theta'_{F',e}$	0.5151
$\theta'_{i,F'}$	1.7876

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0053
$\Delta\theta_{C,A'}$	-0.0003
$\Delta\theta_{g,d}$	-0.0008
$\Delta\theta_{g,F}$	-0.0006
$\Delta\theta_{i,g}$	-0.0032

Thermal Properties	
Strain Point StP (°C)	530
Annealing Point AP (°C)	559
Transformation Temperature Tg (°C)	578
Yield Point At (°C)	618
Softening Point SP (°C)	680
Expansion Coefficients (-30~+70°C)	84
α (10^{-7}K^{-1}) (+100~+300°C)	96
Thermal Conductivity λ W/(m·K)	0.878

Coloring			
λ_{80}	385	λ_5	340
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	375	$\lambda_{0.05}$	341

CCI		
B	G	R
0.00	1.01	1.02

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	0.02
350	0.24
360	0.54
370	0.74
380	0.85
390	0.918
400	0.950
420	0.975
440	0.982
460	0.987
480	0.990
500	0.993
550	0.997
600	0.996
650	0.996
700	0.997
800	0.997
900	0.997
1000	0.996
1200	0.996
1400	0.994
1600	0.995
1800	0.988
2000	0.978
2200	0.944
2400	0.88

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	0.5	0.9	1.0	1.1	1.3	1.7	2.1
-20~ 0	0.6	1.0	1.0	1.2	1.4	1.8	2.3
0~20	0.7	1.1	1.1	1.2	1.5	1.9	2.4
20~40	0.7	1.1	1.2	1.3	1.5	2.0	2.5
40~60	0.8	1.2	1.2	1.4	1.6	2.1	2.6
60~80	0.8	1.3	1.3	1.5	1.7	2.2	2.8

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	2.05
Specific Gravity d	3.23
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.