

# BSL7Y

Code(d) **516643**

Code(e) **518641**

Refractive Index $n_d$	1.51633 1.516330	Abbe Number $v_d$	64.3 64.24	Dispersion $n_F-n_C$	0.00803 0.008037
Refractive Index $n_e$	1.518248	Abbe Number $v_e$	64.04	Dispersion $n_F-n_{C'}$	0.008092

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.48829
$n_{1970}$	1.97009	1.49417
$n_{1530}$	1.52958	1.50028
$n_{1129}$	1.12864	1.50528
$n_t$	1.01398	1.50681
$n_s$	0.85211	1.50933
$n_{A'}$	0.76819	1.51096
$n_r$	0.70652	1.51242
$n_C$	0.65627	1.51386
$n_{C'}$	0.64385	1.51425
$n_{\text{He-Ne}}$	0.6328	1.51462
$n_D$	0.58929	1.51626
$n_d$	0.58756	1.51633
$n_e$	0.54607	1.51825
$n_F$	0.48613	1.52189
$n_{F'}$	0.47999	1.52234
$n_{\text{He-Cd}}$	0.44157	1.52562
$n_g$	0.435835	1.52619
$n_h$	0.404656	1.52973
$n_i$	0.365015	1.53574
$n_{334}$	0.334148	1.54218
$n_{326}$	0.326106	1.54422

Partial Dispersions	
$n_C-n_t$	0.007046
$n_C-n_{A'}$	0.002891
$n_d-n_C$	0.002475
$n_e-n_C$	0.004393
$n_g-n_d$	0.009857
$n_g-n_F$	0.004295
$n_h-n_g$	0.003543
$n_i-n_g$	0.009552
$n_C-n_t$	0.007443
$n_e-n_{C'}$	0.003996
$n_{F'}-n_e$	0.004096
$n_i-n_{F'}$	0.013395

Relative Partial Dispersions	
$\theta_{C,t}$	0.8767
$\theta_{C,A'}$	0.3597
$\theta_{d,C}$	0.3080
$\theta_{e,C}$	0.5466
$\theta_{g,d}$	1.2265
$\theta_{g,F}$	0.5344
$\theta_{h,g}$	0.4408
$\theta_{i,g}$	1.1885
$\theta'_{C,t}$	0.9198
$\theta'_{e,C'}$	0.4938
$\theta'_{F',e}$	0.5062
$\theta'_{i,F}$	1.6553

Thermal Properties	
Strain Point StP (°C)	527
Annealing Point AP (°C)	559
Transformation Temperature Tg (°C)	577
Yield Point At (°C)	616
Softening Point SP (°C)	714
Expansion Coefficients (-30~+70°C)	68
$\alpha$ (10 <sup>-7</sup> /°C) (+100~+300°C)	81
Thermal Conductivity k (W/m·K)	1.182

Coloring			
$\lambda_{80}$	32	$\lambda_5$	29

Internal Transmittance		
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$	$\tau_{25\text{mm}}$
240		
250		
260		
270		
280		
290	0.06	
300	0.43	0.12
310	0.78	0.54
320	0.932	0.83
330	0.978	0.945
340	0.991	0.978
350	0.996	0.990
360	0.997	0.992
365	0.998	0.995
370	0.998	0.996
380	0.998	0.996
390	0.999	0.997
400	0.999	0.998
420	0.999	0.998
440	0.999	0.998
460	0.999	0.998
480	0.999	0.998
500	0.999	0.999
550	0.999	0.999
600	0.999	0.998
650	0.999	0.998
700	0.999	0.999
800	0.999	0.999
900	0.999	0.997
1000	0.997	0.993
1200	0.997	0.993
1400	0.969	0.924
1600	0.990	0.975
1800	0.981	0.952
2000	0.962	0.908
2200	0.86	0.68
2400	0.80	0.58

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0286
$\Delta \theta_{C,A'}$	0.0059
$\Delta \theta_{g,d}$	-0.0048
$\Delta \theta_{g,F}$	-0.0031
$\Delta \theta_{i,g}$	0.0014

Constants of Dispersion Formula *1	
$A_1$	1.13329383E+00
$A_2$	1.36897201E-01
$A_3$	7.03456004E-01
$B_1$	6.69407868E-03
$B_2$	2.37391760E-02
$B_3$	7.07030316E+01

\*1 By using these contents, refractive indices for any wavelength between 326 and 1129nm can be calculated. When calculateing refractive indices for any wavelength between 1129 and 2325nm, please refer to us.

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

Other Properties	
Bubble Quality Group B	
Specific Gravity d	2.5
Remarks	

Temperature Coefficients of Refractive Index								
Range of Temperature (°C)	$dn/dt$ relative (10 <sup>-6</sup> /°C)							
	t	C'	He-Ne	D	e	F'	g	i
-40~20	2.3	2.6	2.6	2.7	2.8	3.0	3.2	3.8
-20~ 0	2.4	2.7	2.7	2.8	2.9	3.2	3.4	4.0
0~20	2.5	2.8	2.9	3.0	3.1	3.3	3.6	4.2
20~40	2.6	3.0	3.0	3.1	3.2	3.5	3.7	4.4
40~60	2.8	3.1	3.1	3.2	3.3	3.6	3.9	4.6
60~80	2.9	3.2	3.2	3.3	3.4	3.7	4.0	4.8