

# PBL25Y

Code(d) **581408**

Code(e) **585405**

Refractive Index $n_d$	<b>1.58144</b> 1.581439	Abbe Number $v_d$	<b>40.8</b> 40.77	Dispersion $n_F-n_C$	<b>0.01426</b> 0.014263
Refractive Index $n_e$	1.584824	Abbe Number $v_e$	40.49	Dispersion $n_F-n_{C'}$	0.014442

Refractive Indices		
$\lambda(\mu m)$		
$n_{2325}$	2.32542	1.54936
$n_{1970}$	1.97009	1.55423
$n_{1530}$	1.52958	1.55961
$n_{1129}$	1.12864	1.56480
$n_t$	1.01398	1.56667
$n_s$	0.85211	1.57011
$n_{A'}$	0.76819	1.57256
$n_r$	0.70652	1.57487
$n_C$	0.65627	1.57722
$n_{C'}$	0.64385	1.57788
$n_{He-Ne}$	0.6328	1.57850
$n_D$	0.58929	1.58131
$n_d$	0.58756	1.58144
$n_e$	0.54607	1.58482
$n_F$	0.48613	1.59148
$n_{F'}$	0.47999	1.59232
$n_{He-Cd}$	0.44157	1.59856
$n_g$	0.435835	1.59967
$n_h$	0.404656	1.60670
$n_i$	0.365015	1.61928
$n_{334}$	0.334148	1.63387
$n_{326}$	0.326106	1.63876

Partial Dispersions	
$n_C-n_t$	0.010546
$n_C-n_{A'}$	0.004656
$n_d-n_C$	0.004222
$n_e-n_C$	0.007607
$n_g-n_d$	0.018226
$n_g-n_F$	0.008185
$n_h-n_g$	0.007038
$n_i-n_g$	0.019619
$n_C-n_t$	0.011210
$n_e-n_{C'}$	0.006943
$n_F-n_e$	0.007499
$n_i-n_{F'}$	0.026961

Relative Partial Dispersions	
$\theta_{C,t}$	0.7394
$\theta_{C,A'}$	0.3264
$\theta_{d,C}$	0.2960
$\theta_{e,C}$	0.5333
$\theta_{g,d}$	1.2779
$\theta_{g,F}$	0.5739
$\theta_{h,g}$	0.4934
$\theta_{i,g}$	1.3755
$\theta'_{C,t}$	0.7762
$\theta'_{e,C'}$	0.4808
$\theta'_{F',e}$	0.5192
$\theta'_{i,F}$	1.8668

Thermal Properties	
Strain Point StP (°C)	381
Annealing Point AP (°C)	420
Transformation Temperature Tg (°C)	440
Yield Point At (°C)	468
Softening Point SP (°C)	590
Expansion Coefficients (-30~+70°C)	87
$\alpha$ (10 <sup>-7</sup> /°C) (+100~+300°C)	98
Thermal Conductivity k (W/m-K)	0.899

Coloring			
$\lambda_{80}$	34	$\lambda_5$	31

Internal Transmittance		
$\lambda$ (nm)	$\tau_{10mm}$	$\tau_{25mm}$
240		
250		
260		
270		
280		
290		
300		
310	0.01	
320	0.35	0.07
330	0.78	0.54
340	0.940	0.85
350	0.981	0.954
360	0.993	0.982
365	0.995	0.986
370	0.996	0.990
380	0.997	0.993
390	0.998	0.995
400	0.998	0.996
420	0.998	0.996
440	0.998	0.996
460	0.999	0.997
480	0.999	0.998
500	0.999	0.998
550	0.999	0.998
600	0.999	0.998
650	0.999	0.998
700	0.999	0.999
800	0.999	0.999
900	0.999	0.998
1000	0.998	0.996
1200	0.998	0.995
1400	0.996	0.990
1600	0.994	0.984
1800	0.979	0.948
2000	0.953	0.88
2200	0.905	0.78
2400	0.87	0.70

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0014
$\Delta \theta_{C,A'}$	0.0011
$\Delta \theta_{g,d}$	-0.0021
$\Delta \theta_{g,F}$	-0.0016
$\Delta \theta_{i,g}$	-0.0081

Constants of Dispersion Formula *1	
$A_1$	1.31960626E+00
$A_2$	1.23752633E-01
$A_3$	2.10055351E-01
$B_1$	1.01863415E-02
$B_2$	4.83593508E-02
$B_3$	2.73272029E+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)	1
Weathering Resistance(Surface) Group W(S)	1
Acid Resistance(Surface) Group SR	1.0
Phosphate Resistance PR	2.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.23
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	1.8	2.4	2.5	2.7	2.9	3.5	4.2	6.3
-20~ 0	1.9	2.5	2.6	2.8	3.1	3.7	4.4	6.5
0~20	1.9	2.6	2.7	2.9	3.2	3.8	4.5	6.8
20~40	2.0	2.7	2.8	3.0	3.3	4.0	4.7	7.0
40~60	2.1	2.8	2.9	3.1	3.4	4.1	4.9	7.3
60~80	2.1	2.9	3.0	3.2	3.5	4.3	5.1	7.5