

# PBL 6Y

Code(d) **532490**

Code(e) **534487**

Refractive Index $n_d$ <b>1.53172</b> 1.531717	Abbe Number $\nu_d$ <b>48.95</b>	Dispersion $n_F-n_C$ <b>0.010862</b>
Refractive Index $n_e$ 1.534301	Abbe Number $\nu_e$ 48.67	Dispersion $n_F-n_{C'}$ 0.010977

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.50343
$n_{1970}$	1.97009	1.50833
$n_{1530}$	1.52958	1.51361
$n_{1129}$	1.12864	1.51837
$n_t$	1.01398	1.51998
$n_s$	0.85211	1.52282
$n_{A'}$	0.76819	1.52480
$n_r$	0.70652	1.52663
$n_C$	0.65627	1.52846
$n_{C'}$	0.64385	1.52897
$n_{\text{He-Ne}}$	0.6328	1.52946
$n_D$	0.58929	1.53162
$n_d$	0.58756	1.53172
$n_e$	0.54607	1.53430
$n_F$	0.48613	1.53932
$n_{F'}$	0.47999	1.53995
$n_{\text{He-Cd}}$	0.44157	1.54459
$n_g$	0.435835	1.54540
$n_h$	0.404656	1.55056
$n_i$	0.365015	1.55959
$n_{334}$	0.334148	1.56978
$n_{326}$	0.326106	1.57312

Constants of Dispersion Formula	
$A_1$	1.22310794E+00
$A_2$	8.11217929E-02
$A_3$	3.21400939E-01
$B_1$	8.97805333E-03
$B_2$	4.45756957E-02
$B_3$	4.05962247E+01

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	1.0

Mechanical Properties	
Young's Modulus E (GPa)	60.5
Rigidity Modulus G (GPa)	25.1
Poisson's Ratio $\sigma$	0.205
Knoop Hardness HK(Class)	450 5
Abrasion Aa	118

Partial Dispersions	
$n_C-n_t$	0.008482
$n_C-n_{A'}$	0.003660
$n_d-n_C$	0.003258
$n_e-n_C$	0.005842
$n_g-n_d$	0.013686
$n_g-n_F$	0.006082
$n_h-n_g$	0.005153
$n_i-n_g$	0.014190
$n_C-n_t$	0.008998
$n_e-n_{C'}$	0.005326
$n_{F'}-n_e$	0.005651
$n_i-n_{F'}$	0.019641

Relative Partial Dispersions	
$\theta_{C,t}$	0.7809
$\theta_{C,A'}$	0.3370
$\theta_{d,C}$	0.2999
$\theta_{e,C}$	0.5378
$\theta_{g,d}$	1.2600
$\theta_{g,F}$	0.5599
$\theta_{h,g}$	0.4744
$\theta_{i,g}$	1.3064
$\theta'_{C,t}$	0.8197
$\theta'_{e,C}$	0.4852
$\theta'_{F',e}$	0.5148
$\theta'_{i,F'}$	1.7893

※Refractive Indices of the wavelength nm can be calculated from 326 to 1129 nm by this constant. Use the appended list of the constants to calculate 1129-2325nm.

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0046
$\Delta \theta_{C,A'}$	0.0018
$\Delta \theta_{g,d}$	-0.0031
$\Delta \theta_{g,F}$	-0.0024
$\Delta \theta_{i,g}$	-0.0087

Thermal Properties	
Strain Point StP (°C)	398
Annealing Point AP (°C)	436
Transformation Temperature Tg (°C)	453
Yield Point At (°C)	501
Softening Point SP (°C)	637
Expansion Coefficients (-30~+70°C)	83
$\alpha$ ( $10^{-7} \text{K}^{-1}$ ) (+100~+300°C)	90
Thermal Conductivity $\lambda$ W/(m·K)	1.02

Coloring			
$\lambda_{80}$	325	$\lambda_5$	305
$\lambda_{70}$			

Internal transmission			
$\lambda_{0.80}$	321	$\lambda_{0.05}$	304

CCI		
B	G	R
0.00	0.00	0.00

Internal Transmittance		
$\lambda(\text{nm})$	$\tau$ 10mm	$\tau$ 25mm
240		
250		
260		
270		
280		
290		
300		
310	0.33	0.06
320	0.79	0.55
330	0.947	0.87
340	0.985	0.963
350	0.994	0.986
360	0.997	0.993
365	0.998	0.994
370	0.998	0.995
380	0.998	0.996
390	0.998	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	0.998
550	0.999	0.998
600	0.999	0.999
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	0.997	0.993
1400	0.996	0.990
1600	0.993	0.983
1800	0.973	0.934
2000	0.933	0.84
2200	0.86	0.69
2400	0.81	0.59

Other Properties	
Photoelastic Constant $\beta$ nm/(cm $\cdot$ 10 $^5$ Pa)	3.07
Specific Gravity d	2.79
Remarks	

OHARA 22-04

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.

Temperature Coefficients of Refractive Index								
Range of Temperature (°C)	$\Delta n / \Delta T$ relative ( $10^{-6} \text{K}^{-1}$ )							
	t	C'	He-Ne	D	e	F'	g	i
-40~-20	1.9	2.3	2.3	2.4	2.6	3.0	3.4	4.7
-20~ 0	1.9	2.4	2.4	2.5	2.7	3.1	3.6	4.9
0~20	2.0	2.5	2.5	2.6	2.8	3.3	3.7	5.1
20~40	2.1	2.6	2.6	2.7	2.9	3.4	3.9	5.3
40~60	2.1	2.7	2.7	2.9	3.1	3.5	4.0	5.6
60~80	2.2	2.8	2.8	3.0	3.2	3.7	4.2	5.8