

PBL 6Y

Code(d) **532490**

Code(e) **534487**

Refractive Index n_d	1.53172	Abbe Number ν_d	48.95	Dispersion n_F-n_C	0.010862
Refractive Index n_e	1.534301	Abbe Number ν_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 σ	0.205
Knoop Hardness Hk[Class]	430 4
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)	447 *
Yield Point At (°C)	513 *
Softening Point SP (°C)	637
Expansion Coefficients (-30~+70°C)	80 *
α ($10^{-7} K^{-1}$) (+100~+300°C)	94 *
Thermal Conductivity λ W/(m·K)	1.02

Coloring			
λ_{80}	325	λ_5	305
λ_{70}			

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

CCI		
B	G	R
0.00	0.00	0.00

Internal Transmittance		
$\lambda(\text{nm})$	τ 10mm	τ 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 β nm/(cm \cdot 10 5 Pa)	3.07
Specific Gravity d	2.79
Remarks	

OHARA 24-01

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	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

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.