PBM8Y

Code(d) **596393**
Code(e) **599390**

Refractive Index	n_d	**1.59551**	Abbe Number	ν_d	**39.26**	Dispersion	n_F-n_C	**0.015169**
		1.595509						
Refractive Index	n_e	1.599108	Abbe Number	ν_e	38.99	Dispersion	n_F-$n_{C'}$	0.015365

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.56224
n_{1970}	1.97009	1.56716
n_{1530}	1.52958	1.57263
n_{1129}	1.12864	1.57797
n_t	1.01398	1.57992
n_s	0.85211	1.58352
$n_{A'}$	0.76819	1.58611
n_r	0.70652	1.58855
n_C	0.65627	1.59103
$n_{C'}$	0.64385	1.59173
n_{He-Ne}	0.6328	1.59239
n_D	0.58929	1.59538
n_d	0.58756	1.59551
n_e	0.54607	1.59911
n_F	0.48613	1.60620
$n_{F'}$	0.47999	1.60710
n_{He-Cd}	0.44157	1.61377
n_g	0.435835	1.61495
n_h	0.404656	1.62249
n_i	0.365015	1.63604
n_{334}	0.334148	1.65185
n_{326}	0.326106	1.65718

Constants of Dispersion Formula	
A_1	1.35351322E+00
A_2	1.30212912E-01
A_3	1.58337266E-01
B_1	1.05624626E-02
B_2	4.96606652E-02
B_3	2.07965806E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
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

Mechanical Properties		
Young's Modulus E (10^8N/m^2)	588	
Rigidity Modulus G (10^8N/m^2)	241	
Poisson's Ratio σ	0.222	
Knoop Hardness Hk[Class]	400	4
Abrasion Aa	154	
Photoelastic Constant β nm/(cm・10^5Pa)		2.87

Partial Dispersions	
n_C-n_t	0.011109
n_C-$n_{A'}$	0.004923
n_d-n_C	0.004479
n_e-n_C	0.008078
n_g-n_d	0.019438
n_g-n_F	0.008748
n_h-n_g	0.007545
n_i-n_g	0.021090
$n_{C'}$-n_t	0.011813
n_e-$n_{C'}$	0.007374
$n_{F'}$-n_e	0.007991
n_i-$n_{F'}$	0.028938

Relative Partial Dispersions	
$\theta_{C,t}$	0.7323
$\theta_{C,A'}$	0.3245
$\theta_{d,C}$	0.2953
$\theta_{e,C}$	0.5325
$\theta_{g,d}$	1.2814
$\theta_{g,F}$	0.5767
$\theta_{h,g}$	0.4974
$\theta_{i,g}$	1.3903
$\theta'_{C',t}$	0.7688
$\theta'_{e,C'}$	0.4799
$\theta'_{F',e}$	0.5201
$\theta'_{i,F'}$	1.8834

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0014
$\Delta\theta_{C,A'}$	0.0011
$\Delta\theta_{g,d}$	-0.0018
$\Delta\theta_{g,F}$	-0.0012
$\Delta\theta_{i,g}$	-0.0060

Thermal Properties		
Strain Point StP (℃)		390
Annealing Point AP (℃)		426
Transformation Temperature Tg (℃)		445
Yield Point At (℃)		485
Softening Point SP (℃)		590
Expansion Coefficients α (10^{-7}/℃)	(-30~+70℃)	85
	(+100~+300℃)	96
Thermal Conductivity λ W/(m·K)		0.878

Coloring			
λ_{80}	340	λ_5	315
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	336	$\lambda_{0.05}$	318

CCI		
B	G	R
0.00	0.04	0.04

Internal Transmittance		
λ(nm)	τ 10mm	τ 25mm
240		
250		
260		
270		
280		
290		
300		
310		
320	0.17	0.01
330	0.65	0.34
340	0.89	0.75
350	0.966	0.918
360	0.987	0.968
365	0.991	0.977
370	0.993	0.983
380	0.996	0.990
390	0.997	0.993
400	0.998	0.995
420	0.998	0.996
440	0.998	0.996
460	0.998	0.996
480	0.999	0.997
500	0.999	0.998
550	0.999	0.998
600	0.999	0.998
650	0.999	0.998
700	0.999	0.998
800	0.999	0.998
900	0.999	0.998
1000	0.998	0.995
1200	0.998	0.995
1400	0.995	0.988
1600	0.994	0.986
1800	0.981	0.953
2000	0.960	0.903
2200	0.916	0.80
2400	0.88	0.74

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.36
Remarks	

Temperature Coefficients of Refractive Index								
Range of Temperature (℃)	Δn/ΔT relative (10^{-6}/℃)							
	t	C'	He-Ne	D	e	F'	g	i
-40~-20	1.9	2.6	2.7	2.9	3.2	3.8	4.6	6.8
-20~ 0	2.0	2.7	2.8	3.0	3.3	4.0	4.8	7.1
0~20	2.1	2.9	2.9	3.2	3.5	4.2	5.0	7.4
20~40	2.2	3.0	3.0	3.3	3.6	4.4	5.2	7.7
40~60	2.3	3.1	3.2	3.4	3.8	4.5	5.4	8.0
60~80	2.5	3.3	3.3	3.5	3.9	4.7	5.6	8.3

OHARA 17-04

※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.