OHARA PBM8R

596394
599391

Refractive Index	n_d	**1,59551** 1,595510	Abbe Number	ν_d **39,40**	Dispersion $n_F - n_C$ 0,015116
Refractive Index	n_e	1,599095	Abbe Number	ν_e 39,12	Dispersion $n_{F'} - n_{C'}$ 0,015313

Refractive Indices

	λ (μm)	
n_{2325}	2.32542	1,56227
n_{1970}	1.97009	1,56720
n_{1530}	1.52958	1,57269
n_{1129}	1.12864	1,57803
n_t	1.01398	1,57997
n_s	0.85211	1,58356
$n_{A'}$	0.76819	1,58614
n_r	0.70652	1,58857
n_C	0.65627	**1,59105**
$n_{C'}$	0.64385	1,59175
n_{He-Ne}	0.6328	1,59241
n_D	0.58929	1,59538
n_d	0.58756	**1,59551**
n_e	0.54607	1,59910
n_F	0.48613	**1,60617**
$n_{F'}$	0.47999	1,60706
n_{He-Cd}	0.44157	1,61372
n_g	0.435835	**1,61490**
n_h	0.404656	1,62243
n_i	0.365015	
n_{334}	0.334148	
n_{326}	0.326106	

Thermal Properties

Strain Point	**StP**	378
Annealing Point	**AP**	417
Transformation Temperature	**Tg**	445
Yield Point	**At**	487
Softening Point	**SP**	583
Expansion Coefficient (10^{-7} /°C)	α (-30~+70°C)	89
	α (+100~+300°C)	98
Thermal Conductivity (W/m·K)	**k**	0,860

Mechanical Properties

Young's Modulus (10^8N/m^2)	**E**	601
Rigidity Modulus (10^8N/m^2)	**G**	246
Poisson's Ratio	σ	0,222
Knoop Hardness	**Hk**	450 [5]
Abrasion	**Aa**	149
Photoelastic Constant (nm/cm/10^5 Pa)	β	2,83

Partial Dispersions

$n_C - n_t$	0,011078
$n_C - n_{A'}$	0,004906
$n_d - n_C$	0,004461
$n_e - n_C$	0,008046
$n_g - n_d$	0,019388
$n_g - n_F$	0,008733
$n_h - n_g$	0,007537
$n_i - n_g$	
$n_{C'} - n_t$	0,011779
$n_e - n_{C'}$	0,007345
$n_{F'} - n_e$	0,007968
$n_i - n_{F'}$	

Deviation of Relative Partial Dispersions

$\Delta\theta_{C,t}$	0,0014
$\Delta\theta_{C,A'}$	0,0010
$\Delta\theta_{g,d}$	-0,0003
$\Delta\theta_{g,F}$	0,0000
$\Delta\theta_{i,g}$	

Constants of Dispersion Formula

326 ~ 1129 nm	
A_1	1,28727716
A_2	$1{,}97441182 \cdot 10^{-1}$
A_3	1,06080384
B_1	$9{,}05226546 \cdot 10^{-3}$
B_2	$4{,}44806172 \cdot 10^{-2}$
B_3	$1{,}25354680 \cdot 10^{2}$
1129 ~ 2325 nm	
A_1	
A_2	
A_3	
B_1	
B_2	
B_3	

Chemical Properties

Water Resistance (Powder) Group	**RW(P)**	1
Acid Resistance (Powder) Group	**RA(P)**	1
Weathering Resistance (Surface) Group	**W(S)**	2
Acid Resistance (Surface) Group	**SR**	1,0
Phosphate Resistance	**PR**	2,0

Relative Partial Dispersions

$\theta_{C,t}$	0,7329
$\theta_{C,A'}$	0,3246
$\theta_{d,C}$	0,2951
$\theta_{e,C}$	0,5323
$\theta_{g,d}$	1,2826
$\theta_{g,F}$	0,5777
$\theta_{h,g}$	0,4986
$\theta_{i,g}$	
$\theta'_{C',t}$	0,7692
$\theta'_{e,C'}$	0,4797
$\theta'_{F',e}$	0,5203
$\theta'_{i,F'}$	

Other Properties

Bubble Quality Group	**B**	
Specific Gravity	**d**	3,36
Coloring	λ_{80} / λ_{70}	430
	λ_5	375

Internal Transmittance

λ (nm)	τ i 10 mm	τ i 25 mm
280		
290		
300		
310		
320		
330		
340		
350		
360		
365		
370		
380	0,292	
390	0,432	
400	0,625	
420	0,857	
440	0,942	
460	0,971	
480	0,983	
500	0,988	
550	0,994	
600	0,996	
650	0,997	
700	0,999	
800	0,999	
900	0,999	
1000	0,999	
1200	0,999	
1400	0,996	
1600	0,996	
1800	0,976	
2000	0,948	
2200	0,887	
2400	0,849	

Temperature Coefficients of Refractive Index

Range of Temperature (°C)	dn / dt relative (10^6 /°C)							
	t	C'	He-Ne	D	e	F'	g	i
-40 ~ -20	2,0	2,7	2,8	3,0	3,3	4,0	4,7	
-20 ~ 0	2,1	2,8	2,9	3,1	3,4	4,1	4,9	
0 ~ 20	2,2	3,0	3,0	3,2	3,6	4,3	5,1	
20 ~ 40	2,3	3,1	3,1	3,4	3,7	4,4	5,3	
40 ~ 60	2,4	3,2	3,3	3,5	3,9	4,6	5,5	
60 ~ 80	2,6	3,4	3,5	3,7	4,1	4,9	5,8	