

# PBM2R

Code(d) **620365**

Code(e) **624362**

Refractive Index $n_d$	<b>1.62004</b> 1.620040	Abbe Number $v_d$	<b>(36.5)</b> 36.46	Dispersion $n_F-n_C$	<b>(0.017)</b> 0.017006
Refractive Index $n_e$	1.624070	Abbe Number $v_e$	36.20	Dispersion $n_F-n_C$	1.017241

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.325420	1.58479
$n_{1970}$	1.970090	1.58968
$n_{1530}$	1.529580	1.59521
$n_{1129}$	1.128640	1.60077
$n_t$	1.013980	1.60284
$n_s$	0.852110	1.60675
$n_{A'}$	0.768190	1.60959
$n_r$	0.706520	1.61229
$n_C$	0.656270	<b>1.61505</b>
$n_{C'}$	0.643850	1.61583
$n_{\text{He-Ne}}$	0.632800	1.61657
$n_D$	0.589290	1.61989
$n_d$	0.587560	<b>1.62004</b>
$n_e$	0.546070	1.62407
$n_F$	0.486130	<b>1.63205</b>
$n_{F'}$	0.479990	1.63307
$n_{\text{He-Cd}}$	0.441570	1.64063
$n_g$	0.435835	<b>1.64198</b>
$n_h$	0.404656	1.65059
$n_i$	0.365015	-

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0001
$\Delta\theta_{C,A'}$	0.0006
$\Delta\theta_{g,d}$	0.0008
$\Delta\theta_{g,F}$	0.0009
$\Delta\theta_{i,g}$	-

Constants of Dispersion Formula	
$A_1$	1.33196025E+00
$A_2$	2.22769377E-01
$A_3$	1.07588306E+00
$B_1$	9.60250965E-03
$B_2$	4.64137676E-02
$B_3$	1.27998850E+02

Other Properties	
Bubble Quality Group	
Specific Gravity	3.59
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	
-40~20	2.1	3.0	3.0	3.3	3.7	4.5	5.4	
-20~ 0	2.3	3.1	3.2	3.5	3.8	4.7	5.6	
0~20	2.4	3.3	3.3	3.6	4.0	4.9	5.8	
20~40	2.4	3.4	3.4	3.7	4.1	5.0	6.0	
40~60	2.6	3.5	3.6	3.9	4.3	5.2	6.3	
60~80	2.8	3.8	3.9	4.2	4.6	5.6	6.6	

Partial Dispersions	
$n_C-n_t$	0.012204
$n_C-n_{A'}$	0.005452
$n_d-n_C$	0.004993
$n_e-n_C$	0.009023
$n_g-n_d$	0.021935
$n_g-n_F$	0.009922
$n_h-n_g$	0.008615
$n_i-n_g$	-
$n_C-n_t$	0.012987
$n_e-n_{C'}$	0.008240
$n_F-n_e$	0.009001
$n_i-n_{F'}$	-

Thermal Properties	
Strain Point StP (°C)	373
Annealing Point AP (°C)	409
Transformation Temperature Tg (°C)	437
Yield Point At (°C)	467
Softening Point SP (°C)	574
Expansion Coefficients (-30~+70°C)	89
$\alpha$ (10 <sup>-7</sup> /°C) (+100~+300°C)	98
Thermal Conductivity k (W/m·K)	0.8

Mechanical Properties	
Young's Modulus E (10 <sup>9</sup> N/m <sup>2</sup> )	575
Rigidity Modulus G (10 <sup>9</sup> N/m <sup>2</sup> )	234
Poisson's Ratio $\sigma$	0.227
Knoop Hardness Hk(Class)	430   4
Abrasion Aa	161
Photoelastic Constant $\beta$ (nm/cm/10 <sup>5</sup> Pa)	2.73

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

Relative Partial Dispersions	
$\theta_{C,t}$	0.7176
$\theta_{C,A'}$	0.3206
$\theta_{d,C}$	0.2936
$\theta_{e,C}$	0.5306
$\theta_{g,d}$	1.2898
$\theta_{g,F}$	0.5834
$\theta_{h,g}$	0.5066
$\theta_{i,g}$	-
$\theta'_{C,t}$	0.7533
$\theta'_{e,C'}$	0.4779
$\theta'_{F,e}$	0.5221
$\theta'_{i,F}$	-

Coloring			
$\lambda_{80}$	445	$\lambda_5$	385
$\lambda_{70}$			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	
350	
360	
370	
380	0.12
390	0.275
400	0.451
420	0.761
440	0.900
460	0.953
480	0.972
500	0.981
550	0.991
600	0.995
650	0.997
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.999
1600	0.997
1800	0.980
2000	0.958
2200	0.906
2400	0.872