

S-FPM2

Code(d) **595677**

Code(e) **597674**

Refractive Index n_d	1.59522 1.595220	Abbe Number ν_d	67.7 67.74	Dispersion n_F-n_C	0.00879 0.008787
Refractive Index n_e	1.597316	Abbe Number ν_e	67.37	Dispersion $n_F-n_{C'}$	0.008866

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.57252
n_{1970}	1.97009	1.57631
n_{1530}	1.52958	1.58045
n_{1129}	1.12864	1.58426
n_t	1.01398	1.58557
n_s	0.85211	1.58791
$n_{A'}$	0.76819	1.58954
n_r	0.70652	1.59105
n_C	0.65627	1.59255
$n_{C'}$	0.64385	1.59298
$n_{\text{He-Ne}}$	0.6328	1.59337
n_D	0.58929	1.59514
n_d	0.58756	1.59522
n_e	0.54607	1.59732
n_F	0.48613	1.60134
$n_{F'}$	0.47999	1.60184
$n_{\text{He-Cd}}$	0.44157	1.60549
n_g	0.435835	1.60612
n_h	0.404656	1.61008
n_i	0.365015	1.61681

Partial Dispersions	
n_C-n_t	0.006988
$n_C-n_{A'}$	0.003015
n_d-n_C	0.002665
n_e-n_C	0.004761
n_g-n_d	0.010904
n_g-n_F	0.004782
n_h-n_g	0.003960
n_i-n_g	0.010681
n_C-n_t	0.007411
$n_e-n_{C'}$	0.004338
$n_{F'}-n_e$	0.004528
$n_i-n_{F'}$	0.014961

Relative Partial Dispersions	
$\theta_{C,t}$	0.7953
$\theta_{C,A'}$	0.3431
$\theta_{d,C}$	0.3033
$\theta_{e,C}$	0.5418
$\theta_{g,d}$	1.2409
$\theta_{g,F}$	0.5442
$\theta_{h,g}$	0.4507
$\theta_{i,g}$	1.2155
$\theta'_{C,t}$	0.8359
$\theta'_{e,C'}$	0.4893
$\theta'_{F',e}$	0.5107
$\theta'_{i,F}$	1.6875

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0692
$\Delta\theta_{C,A'}$	-0.0149
$\Delta\theta_{g,d}$	0.0169
$\Delta\theta_{g,F}$	0.0123
$\Delta\theta_{i,g}$	0.0577

Thermal Properties	
Strain Point StP (°C)	
Annealing Point AP (°C)	
Transformation Temperature Tg (°C)	571
Yield Point At (°C)	596
Softening Point SP (°C)	
Expansion Coefficients (-30~+70°C)	117
α (10 ⁻⁷ /°C) (+100~+300°C)	135
Thermal Conductivity k (W/m·K)	0.624

Coloring			
λ_{80}	365	λ_5	310
λ_{70}			

Constants of Dispersion Formula	
A_1	7.61242785E-01
A_2	7.47033375E-01
A_3	9.38928947E-01
B_1	3.21174095E-03
B_2	1.40234423E-02
B_3	1.39523530E+02

Mechanical Properties	
Young's Modulus E (10 ⁸ N/m ²)	757
Rigidity Modulus G (10 ⁸ N/m ²)	294
Poisson's Ratio σ	0.287
Knoop Hardness Hk(Class)	390 4
Abrasion Aa	488
Photoelastic Constant β (nm/cm/10 ⁵ Pa)	0.51

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	0.17
330	0.35
340	0.56
350	0.74
360	0.86
370	0.930
380	0.965
390	0.981
400	0.987
420	0.988
440	0.989
460	0.991
480	0.994
500	0.996
550	0.998
600	0.997
650	0.996
700	0.996
800	0.996
900	0.996
1000	0.997
1200	0.998
1400	0.998
1600	0.998
1800	0.997
2000	0.994
2200	0.991
2400	0.986

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.17
Remarks	

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	2
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	51.3
Phosphate Resistance PR	4.1

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative (10 ⁻⁶ /°C)						
	t	C'	He-Ne	D	e	F'	g
-40~20	-5.8	-5.5	-5.5	-5.4	-5.3	-5.1	-4.9
-20~ 0	-6.0	-5.7	-5.7	-5.6	-5.5	-5.3	-5.1
0~20	-6.1	-5.9	-5.9	-5.8	-5.7	-5.5	-5.2
20~40	-6.3	-6.1	-6.1	-6.0	-5.9	-5.6	-5.4
40~60	-6.4	-6.2	-6.1	-6.1	-5.9	-5.7	-5.4
60~80	-6.5	-6.2	-6.2	-6.1	-6.0	-5.7	-5.5