

S-TIM 2

Code(d) **620363**

Code(e) **624360**

Refractive Index n_d	1.62004	Abbe Number v_d	36.3	Dispersion n_F-n_C	0.01710
	1.620041		36.26		0.017099
Refractive Index n_e	1.624088	Abbe Number v_e	35.99	Dispersion n_F-n_C	0.017339

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.58240
n_{1970}	1.97009	1.58806
n_{1530}	1.52958	1.59435
n_{1129}	1.12864	1.60041
n_t	1.01398	1.60260
n_s	0.85211	1.60663
$n_{A'}$	0.76819	1.60952
n_r	0.70652	1.61225
n_C	0.65627	1.61502
$n_{C'}$	0.64385	1.61581
$n_{\text{He-Ne}}$	0.6328	1.61655
n_D	0.58929	1.61989
n_d	0.58756	1.62004
n_e	0.54607	1.62409
n_F	0.48613	1.63212
$n_{F'}$	0.47999	1.63315
$n_{\text{He-Cd}}$	0.44157	1.64081
n_g	0.435835	1.64218
n_h	0.404656	1.65100
n_i	0.365015	1.66728

Partial Dispersions	
n_C-n_t	0.012426
$n_C-n_{A'}$	0.005500
n_d-n_C	0.005017
n_e-n_C	0.009064
n_g-n_d	0.022135
n_g-n_F	0.010053
n_h-n_g	0.008822
n_i-n_g	0.025105
n_C-n_t	0.013213
$n_e-n_{C'}$	0.008277
$n_{F'-n_e}$	0.009062
$n_i-n_{F'}$	0.034131

Relative Partial Dispersions	
$\theta_{C,t}$	0.7267
$\theta_{C,A'}$	0.3217
$\theta_{d,C}$	0.2934
$\theta_{e,C}$	0.5301
$\theta_{g,d}$	1.2945
$\theta_{g,F}$	0.5879
$\theta_{h,g}$	0.5159
$\theta_{i,g}$	1.4682
$\theta'_{C,t}$	0.7620
$\theta'_{e,C'}$	0.4774
$\theta'_{F',e}$	0.5226
$\theta'_{i,F}$	1.9685

Thermal Properties	
Strain Point StP (°C)	551
Annealing Point AP (°C)	576
Transformation Temperature Tg (°C)	598
Yield Point At (°C)	634
Softening Point SP (°C)	703
Expansion Coefficients (-30~+70°C)	81
α (10 ⁻⁷ /°C) (+100~+300°C)	95
Thermal Conductivity k (W/m·K)	1.394

Coloring			
λ_{80}	39	λ_5	36
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	
350	
360	0.08
370	0.44
380	0.73
390	0.87
400	0.942
420	0.978
440	0.987
460	0.990
480	0.992
500	0.994
550	0.997
600	0.997
650	0.996
700	0.997
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.995
1600	0.995
1800	0.984
2000	0.971
2200	0.930
2400	0.914

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0099
$\Delta\theta_{C,A'}$	0.0019
$\Delta\theta_{g,d}$	0.0051
$\Delta\theta_{g,F}$	0.0051
$\Delta\theta_{i,g}$	0.0468

Mechanical Properties	
Young's Modulus E (10 ⁸ N/m ²)	776
Rigidity Modulus G (10 ⁸ N/m ²)	315
Poisson's Ratio σ	0.230
Knoop Hardness Hk[Class]	550 6
Abrasion Aa	150
Photoelastic Constant β (nm/cm/10 ⁵ Pa)	2.86

Constants of Dispersion Formula	
A ₁	1.42193846E+00
A ₂	1.33827968E-01
A ₃	1.45060574E+00
B ₁	1.07291511E-02
B ₂	5.72587546E-02
B ₃	1.45381805E+02

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	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	2.69
Remarks	

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	1.7	2.3	2.3	2.5	2.8	3.4	4.2
-20~ 0	1.8	2.3	2.4	2.6	2.9	3.6	4.4
0~20	1.8	2.4	2.5	2.7	3.0	3.7	4.6
20~40	1.9	2.5	2.6	2.8	3.1	3.9	4.8
40~60	1.9	2.6	2.6	2.9	3.2	4.1	5.0
60~80	2.0	2.7	2.7	3.0	3.4	4.2	5.2