S-TIM 1

Code(d) **626357**

Code(e) **630354**

Refractive Index	n_d	**1.62588**	Abbe Number	v_d	**35.7**	Dispersion	n_F-n_C	**0.01754**
		1.625882			35.70			0.017532
Refractive Index	n_e	1.630031	Abbe Number	v_e	35.43	Dispersion	n_F'-$n_{C'}$	0.017780

Refractive Indicies		
λ(μm)		
n_{2325}	2.32542	1.58769
n_{1970}	1.97009	1.59337
n_{1530}	1.52958	1.59970
n_{1129}	1.12864	1.60583
n_t	1.01398	1.60805
n_s	0.85211	1.61216
$n_{A'}$	0.76819	1.61511
n_r	0.70652	1.61790
n_C	0.65627	1.62074
$n_{C'}$	0.64385	1.62155
n_{He-Ne}	0.6328	1.62231
n_D	0.58929	1.62573
n_d	0.58756	1.62588
n_e	0.54607	1.63003
n_F	0.48613	1.63828
$n_{F'}$	0.47999	1.63933
n_{He-Cd}	0.44157	1.64720
n_g	0.435835	1.64861
n_h	0.404656	1.65769
n_i	0.365015	1.67454

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0098
$\Delta\theta_{C,A'}$	0.0019
$\Delta\theta_{g,d}$	0.0056
$\Delta\theta_{g,F}$	0.0056
$\Delta\theta_{i,g}$	0.0530

Constants of Dispersion Formula	
A_1	1.44963830E+00
A_2	1.22986408E-01
A_3	1.38066723E+00
B_1	1.12094282E-02
B_2	5.96265770E-02
B_3	1.38178326E+02

Other Properties	
Bubble Quality Group B	
Specific Gravity d	2.71
Remarks	

Partial Dispersions	
n_C-n_t	0.012693
n_C-$n_{A'}$	0.005628
n_d-n_C	0.005139
n_e-n_C	0.009288
n_g-n_d	0.022725
n_g-n_F	0.010332
n_h-n_g	0.009086
n_i-n_g	0.025932
n_C-n_t	0.013499
n_e-$n_{C'}$	0.008482
n_F-n_e	0.009298
n_i-$n_{F'}$	0.035210

Thermal Properties		
Strain Point StP (℃)		544
Annealing Point AP (℃)		571
Transformation Temperature Tg (℃)		602
Yield Point At (℃)		630
Softening Point SP (℃)		699
Expansion Coefficients α (10^{-7}/℃)	(-30~+70℃)	81
	(+100~+300℃)	96
Thermal Conductivity k (W/m·K)		1.043

Mechanical Properties		
Young's Modulus E (10^8N/m^2)	786	
Rigidity Modulus G (10^8N/m^2)	319	
Poisson's Ratio σ	0.234	
Knoop Hardness Hk[Class]	530	5
Abrasion Aa	136	
Photoelastic Constant β (nm/cm/10^5Pa)		2.82

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	1～2
Acid Resistance(Surface) Group SR	1.0
Phosphate Resistance PR	1.0

Temperature Coefficients of Refractive Index							
Range of Temperature (℃)	dn/dt relative (10^{-6}/℃)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	1.4	2.1	2.1	2.3	2.6	3.3	4.1
-20~ 0	1.5	2.2	2.2	2.4	2.7	3.5	4.3
0~20	1.6	2.3	2.3	2.6	2.9	3.6	4.5
20~40	1.7	2.4	2.4	2.7	3.0	3.8	4.7
40~60	1.8	2.5	2.5	2.8	3.1	3.9	4.9
60~80	1.9	2.6	2.6	2.9	3.2	4.1	5.1

Relative Partial Dispersions	
$\theta_{C,t}$	0.7240
$\theta_{C,A'}$	0.3210
$\theta_{d,C}$	0.2931
$\theta_{e,C}$	0.5298
$\theta_{g,d}$	1.2962
$\theta_{g,F}$	0.5893
$\theta_{h,g}$	0.5183
$\theta_{i,g}$	1.4791
$\theta'_{C',t}$	0.7592
$\theta'_{e,C'}$	0.4771
$\theta'_{F',e}$	0.5229
$\theta'_{i,F}$	1.9803

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

Internal Transmittance	
λ(nm)	τ10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	0.09
370	0.47
380	0.76
390	0.89
400	0.945
420	0.977
440	0.984
460	0.987
480	0.990
500	0.992
550	0.997
600	0.997
650	0.996
700	0.997
800	0.998
900	0.998
1000	0.998
1200	0.998
1400	0.993
1600	0.993
1800	0.980
2000	0.965
2200	0.917
2400	0.89