S-TIM 2

Code(d) **620363**
Code(e) **624360**

Refractive Index	n_d	**1.62004** 1.620041	Abbe Number	ν_d **36.26**	Dispersion	n_F-n_C **0.017099**
Refractive Index	n_e	1.624088	Abbe Number	ν_e 35.99	Dispersion	$n_{F'}$-$n_{C'}$ 0.017339

Refractive Indices		
λ(μm)		
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_{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_{He-Cd}	0.44157	1.64081
n_g	0.435835	1.64218
n_h	0.404656	1.65100
n_i	0.365015	1.66728

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

Mechanical Properties		
Young's Modulus E (GPa)	77.6	
Rigidity Modulus G (GPa)	31.5	
Poisson's Ratio σ	0.230	
Knoop Hardness Hk[Class]	540	5
Abrasion Aa	141	

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

Deviation of Relative Dispersions Δθfrom "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

Thermal Properties		
Strain Point StP (℃)		551
Annealing Point AP (℃)		576
Transformation Temperature Tg (℃)		598
Yield Point At (℃)		634
Softening Point SP (℃)		703
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	81
	(+100~+300℃)	95
Thermal Conductivity λ W/(m·K)		1.04

Coloring			
λ_{80}	390	λ_5	355
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	385	$\lambda_{0.05}$	359

CCI		
B	G	R
0.00	1.20	1.19

Internal Transmittance	
λ(nm)	τ 10mm
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

Temperature Coefficients of Refractive Index							
Range of Temperature (℃)	Δn/ΔT relative ($10^{-6}$$K^{-1}$)						
	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

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	2.86
Specific Gravity d	2.69
Remarks	

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※The name of the glass type is the model number assigned based on the main components of the composition: large, medium, small refractive index and serial number.