

S-TIH14

Code(d) **762265**

Code(e) **769263**

Refractive Index n_d	1.76182 1.761821	Abbe Number ν_d	26.52	Dispersion n_F-n_C	0.028729
Refractive Index n_e	1.768591	Abbe Number ν_e	26.30	Dispersion $n_F-n_{C'}$	0.029221

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.70916
n_{1970}	1.97009	1.71554
n_{1530}	1.52958	1.72302
n_{1129}	1.12864	1.73102
n_t	1.01398	1.73415
n_s	0.85211	1.74022
$n_{A'}$	0.76819	1.74474
n_r	0.70652	1.74908
n_C	0.65627	1.75357
$n_{C'}$	0.64385	1.75485
$n_{\text{He-Ne}}$	0.6328	1.75606
n_D	0.58929	1.76157
n_d	0.58756	1.76182
n_e	0.54607	1.76859
n_F	0.48613	1.78230
$n_{F'}$	0.47999	1.78407
$n_{\text{He-Cd}}$	0.44157	1.79750
n_g	0.435835	1.79992
n_h	0.404656	1.81584
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1.68915108E+00
A_2	2.90462024E-01
A_3	2.37971516E+00
B_1	1.28202514E-02
B_2	6.18090841E-02
B_3	2.01094352E+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)	88.8
Rigidity Modulus G (GPa)	35.4
Poisson's Ratio σ	0.254
Knoop Hardness Hk(Class)	550 6
Abrasion Aa	171

Partial Dispersions	
n_C-n_t	0.019413
$n_C-n_{A'}$	0.008831
n_d-n_C	0.008254
n_e-n_C	0.015024
n_g-n_d	0.038102
n_g-n_F	0.017627
n_h-n_g	0.015917
n_i-n_g	
n_C-n_t	0.020697
$n_e-n_{C'}$	0.013740
$n_{F'}-n_e$	0.015481
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6757
$\theta_{C,A'}$	0.3074
$\theta_{d,C}$	0.2873
$\theta_{e,C}$	0.5230
$\theta_{g,d}$	1.3263
$\theta_{g,F}$	0.6136
$\theta_{h,g}$	0.5540
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7083
$\theta'_{e,C'}$	0.4702
$\theta'_{F',e}$	0.5298
$\theta'_{i,F'}$	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0046
$\Delta\theta_{C,A'}$	-0.0006
$\Delta\theta_{g,d}$	0.0167
$\Delta\theta_{g,F}$	0.0150
$\Delta\theta_{i,g}$	

Thermal Properties	
Strain Point StP (°C)	565
Annealing Point AP (°C)	590
Transformation Temperature Tg (°C)	609
Yield Point At (°C)	634
Softening Point SP (°C)	693
Expansion Coefficients (-30~+70°C)	87
α (10^{-7}K^{-1}) (+100~+300°C)	100
Thermal Conductivity λ W/(m·K)	1.03

Coloring			
λ_{80}	420	λ_5	365
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	397	$\lambda_{0.05}$	368

CCI		
B	G	R
0.00	3.11	3.10

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	
370	0.10
380	0.43
390	0.70
400	0.84
420	0.934
440	0.960
460	0.971
480	0.977
500	0.983
550	0.993
600	0.993
650	0.990
700	0.992
800	0.997
900	0.999
1000	0.999
1200	0.999
1400	0.997
1600	0.996
1800	0.988
2000	0.982
2200	0.961
2400	0.942

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n / \Delta T$ relative (10^{-6}K^{-1})						
	t	C'	He-Ne	D	e	F'	g
-40~-20	0.2	0.9	1.0	1.4	1.8	2.9	4.3
-20~ 0	0.3	1.1	1.2	1.6	2.0	3.2	4.7
0~20	0.4	1.2	1.3	1.7	2.2	3.5	5.1
20~40	0.5	1.4	1.5	2.0	2.4	3.8	5.5
40~60	0.6	1.6	1.7	2.2	2.7	4.1	5.9
60~80	0.7	1.7	1.8	2.4	2.9	4.4	6.2

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	2.86
Specific Gravity d	3.17
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.