S-TIH 4

Code(d) **755275**
Code(e) **762273**

Refractive Index	n_d	**1.75520** 1.755199	Abbe Number	ν_d	**27.51**	Dispersion	n_F-n_C **0.027450**
Refractive Index	n_e	1.761671	Abbe Number	ν_e	27.29	Dispersion	$n_{F'}$-$n_{C'}$ 0.027911

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.70430
n_{1970}	1.97009	1.71054
n_{1530}	1.52958	1.71784
n_{1129}	1.12864	1.72561
n_t	1.01398	1.72864
n_s	0.85211	1.73448
$n_{A'}$	0.76819	1.73882
n_r	0.70652	1.74299
n_C	0.65627	1.74730
$n_{C'}$	0.64385	1.74853
n_{He-Ne}	0.6328	1.74968
n_D	0.58929	1.75496
n_d	0.58756	1.75520
n_e	0.54607	1.76167
n_F	0.48613	1.77475
$n_{F'}$	0.47999	1.77644
n_{He-Cd}	0.44157	1.78920
n_g	0.435835	1.79150
n_h	0.404656	1.80656
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1.66755531E+00
A_2	2.94411865E-01
A_3	2.49422119E+00
B_1	1.22052137E-02
B_2	5.97775329E-02
B_3	2.14869618E+02

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

Mechanical Properties		
Young's Modulus E (GPa)	91.9	
Rigidity Modulus G (GPa)	36.7	
Poisson's Ratio σ	0.254	
Knoop Hardness Hk[Class]	570	6
Abrasion Aa	168	

Partial Dispersions	
n_C-n_t	0.018659
n_C-$n_{A'}$	0.008473
n_d-n_C	0.007904
n_e-n_C	0.014376
n_g-n_d	0.036298
n_g-n_F	0.016752
n_h-n_g	0.015059
n_i-n_g	
n_C-n_t	0.019889
n_e-$n_{C'}$	0.013146
$n_{F'}$-n_e	0.014765
n_i-$n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6797
$\theta_{C,A'}$	0.3087
$\theta_{d,C}$	0.2879
$\theta_{e,C}$	0.5237
$\theta_{g,d}$	1.3223
$\theta_{g,F}$	0.6103
$\theta_{h,g}$	0.5486
$\theta_{i,g}$	
$\theta'_{C',t}$	0.7126
$\theta'_{e,C'}$	0.4710
$\theta'_{F',e}$	0.5290
$\theta'_{i,F'}$	

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0040
$\Delta\theta_{C,A'}$	-0.0005
$\Delta\theta_{g,d}$	0.0147
$\Delta\theta_{g,F}$	0.0133
$\Delta\theta_{i,g}$	

Thermal Properties		
Strain Point StP (℃)		565
Annealing Point AP (℃)		591
Transformation Temperature Tg (℃)		613
Yield Point At (℃)		640
Softening Point SP (℃)		694
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	85
	(+100~+300℃)	100
Thermal Conductivity λ W/(m·K)		1.01

Coloring			
λ_{80}	415	λ_5	365
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	398	$\lambda_{0.05}$	368

CCI		
B	G	R
0.00	3.28	3.30

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	
370	0.12
380	0.45
390	0.70
400	0.82
420	0.929
440	0.962
460	0.973
480	0.980
500	0.986
550	0.995
600	0.994
650	0.993
700	0.995
800	0.999
900	0.999
1000	0.999
1200	0.997
1400	0.995
1600	0.994
1800	0.987
2000	0.981
2200	0.961
2400	0.942

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	0.5	1.2	1.2	1.6	2.0	3.1	4.4
-20~ 0	0.6	1.3	1.4	1.8	2.2	3.3	4.7
0~20	0.6	1.4	1.5	1.9	2.4	3.6	5.1
20~40	0.7	1.6	1.7	2.1	2.6	3.9	5.4
40~60	0.7	1.7	1.8	2.3	2.7	4.1	5.8
60~80	0.7	1.8	1.9	2.4	2.9	4.4	6.1

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	2.76
Specific Gravity d	3.15
Remarks	

OHARA 24-01

※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.