S-TIL 1

Code(d) **548458**

Code(e) **551455**

Refractive Index	n_d	**1.54814**	Abbe Number	ν_d	**45.79**
		1.548141			
Refractive Index	n_e	1.550984	Abbe Number	ν_e	45.49

Dispersion		
n_F-n_C	**0.011972**	
$n_{F'}$-$n_{C'}$	0.012112	

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.51797
n_{1970}	1.97009	1.52307
n_{1530}	1.52958	1.52861
n_{1129}	1.12864	1.53365
n_t	1.01398	1.53537
n_s	0.85211	1.53844
$n_{A'}$	0.76819	1.54058
n_r	0.70652	1.54257
n_C	0.65627	1.54457
$n_{C'}$	0.64385	1.54514
n_{He-Ne}	0.6328	1.54566
n_D	0.58929	1.54804
n_d	0.58756	1.54814
n_e	0.54607	1.55098
n_F	0.48613	1.55654
$n_{F'}$	0.47999	1.55725
n_{He-Cd}	0.44157	1.56244
n_g	0.435835	1.56335
n_h	0.404656	1.56918
n_i	0.365015	1.57959

Constants of Dispersion Formula	
A_1	1.25088944E+00
A_2	9.97973327E-02
A_3	1.20583504E+00
B_1	8.83921279E-03
B_2	4.82685052E-02
B_3	1.37414953E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	3
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	1
Acid Resistance(Surface) Group SR	1.0
Phosphate Resistance PR	1.0

Mechanical Properties		
Young's Modulus E (GPa)	70.5	
Rigidity Modulus G (GPa)	28.8	
Poisson's Ratio σ	0.222	
Knoop Hardness Hk[Class]	490	5
Abrasion Aa	132	

Partial Dispersions	
n_C-n_t	0.009202
n_C-$n_{A'}$	0.003988
n_d-n_C	0.003569
n_e-n_C	0.006412
n_g-n_d	0.015210
n_g-n_F	0.006807
n_h-n_g	0.005833
n_i-n_g	0.016236
n_C-n_t	0.009765
n_e-$n_{C'}$	0.005849
$n_{F'}$-n_e	0.006263
n_i-$n_{F'}$	0.022340

Relative Partial Dispersions	
$\theta_{C,t}$	0.7686
$\theta_{C,A'}$	0.3331
$\theta_{d,C}$	0.2981
$\theta_{e,C}$	0.5356
$\theta_{g,d}$	1.2705
$\theta_{g,F}$	0.5686
$\theta_{h,g}$	0.4872
$\theta_{i,g}$	1.3562
$\theta'_{C',t}$	0.8062
$\theta'_{e,C'}$	0.4829
$\theta'_{F',e}$	0.5171
$\theta'_{i,F'}$	1.8445

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0071
$\Delta\theta_{C,A'}$	0.0017
$\Delta\theta_{g,d}$	0.0009
$\Delta\theta_{g,F}$	0.0012
$\Delta\theta_{i,g}$	0.0146

Thermal Properties		
Strain Point StP (℃)		452
Annealing Point AP (℃)		487
Transformation Temperature Tg (℃)		501
Yield Point At (℃)		542
Softening Point SP (℃)		654
Expansion Coefficients α (10^{-7} K^{-1})	(-30~+70℃)	86
	(+100~+300℃)	101
Thermal Conductivity λ W/(m·K)		1.04

Coloring			
λ_{80}	370	λ_5	340
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	366	$\lambda_{0.05}$	341

CCI		
B	G	R
0.00	0.32	0.33

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	
310	
320	
330	
340	0.01
350	0.29
360	0.69
370	0.87
380	0.944
390	0.972
400	0.984
420	0.992
440	0.994
460	0.995
480	0.996
500	0.997
550	0.998
600	0.998
650	0.998
700	0.998
800	0.998
900	0.998
1000	0.997
1200	0.997
1400	0.996
1600	0.993
1800	0.977
2000	0.948
2200	0.89
2400	0.85

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	1.1	1.5	1.5	1.7	1.9	2.3	2.8
-20~ 0	1.1	1.5	1.6	1.7	1.9	2.4	2.9
0~20	1.1	1.5	1.6	1.7	2.0	2.4	3.0
20~40	1.1	1.6	1.6	1.8	2.0	2.5	3.1
40~60	1.1	1.6	1.6	1.8	2.0	2.6	3.1
60~80	1.1	1.6	1.6	1.8	2.1	2.6	3.2

Other Properties	
Photoelastic Constant β nm/(cm·10^5Pa)	2.68
Specific Gravity d	2.54
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.