

S-TIL26

Code(d) **567428**

Code(e) **570425**

Refractive Index n_d	1.56732 1.567322	Abbe Number ν_d	42.82	Dispersion n_F-n_C	0.013250
Refractive Index n_e	1.570466	Abbe Number ν_e	42.54	Dispersion $n_F-n_{C'}$	0.013411

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.53493
n_{1970}	1.97009	1.54028
n_{1530}	1.52958	1.54611
n_{1129}	1.12864	1.55148
n_t	1.01398	1.55333
n_s	0.85211	1.55667
$n_{A'}$	0.76819	1.55901
n_r	0.70652	1.56119
n_C	0.65627	1.56339
$n_{C'}$	0.64385	1.56401
$n_{\text{He-Ne}}$	0.6328	1.56459
n_D	0.58929	1.56721
n_d	0.58756	1.56732
n_e	0.54607	1.57047
n_F	0.48613	1.57664
$n_{F'}$	0.47999	1.57742
$n_{\text{He-Cd}}$	0.44157	1.58321
n_g	0.435835	1.58423
n_h	0.404656	1.59077
n_i	0.365015	1.60256

Constants of Dispersion Formula	
A_1	1.31066488E+00
A_2	9.41903094E-02
A_3	1.23292644E+00
B_1	9.68897812E-03
B_2	5.27763106E-02
B_3	1.33296422E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
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)	73.9
Rigidity Modulus G (GPa)	30.2
Poisson's Ratio σ	0.222
Knoop Hardness Hk(Class)	500 5
Abrasion Aa	120

Partial Dispersions	
n_C-n_t	0.010055
$n_C-n_{A'}$	0.004379
n_d-n_C	0.003936
n_e-n_C	0.007080
n_g-n_d	0.016907
n_g-n_F	0.007593
n_h-n_g	0.006546
n_i-n_g	0.018329
n_C-n_t	0.010676
$n_e-n_{C'}$	0.006459
$n_{F'}-n_e$	0.006952
$n_i-n_{F'}$	0.025140

Relative Partial Dispersions	
$\theta_{C,t}$	0.7589
$\theta_{C,A'}$	0.3305
$\theta_{d,C}$	0.2971
$\theta_{e,C}$	0.5343
$\theta_{g,d}$	1.2760
$\theta_{g,F}$	0.5731
$\theta_{h,g}$	0.4940
$\theta_{i,g}$	1.3833
$\theta'_{C,t}$	0.7961
$\theta'_{e,C'}$	0.4816
$\theta'_{F',e}$	0.5184
$\theta'_{i,F'}$	1.8746

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0113
$\Delta\theta_{C,A'}$	0.0027
$\Delta\theta_{g,d}$	0.0002
$\Delta\theta_{g,F}$	0.0009
$\Delta\theta_{i,g}$	0.0168

Thermal Properties	
Strain Point StP (°C)	495
Annealing Point AP (°C)	533
Transformation Temperature Tg (°C)	552
Yield Point At (°C)	599
Softening Point SP (°C)	694
Expansion Coefficients (-30~+70°C)	79
α (10^{-7}K^{-1}) (+100~+300°C)	90
Thermal Conductivity λ W/(m·K)	1.05

Coloring			
λ_{80}	380	λ_5	345
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	374	$\lambda_{0.05}$	349

CCI		
B	G	R
0.00	0.56	0.54

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	0.07
360	0.44
370	0.74
380	0.88
390	0.945
400	0.971
420	0.989
440	0.993
460	0.995
480	0.995
500	0.997
550	0.998
600	0.998
650	0.997
700	0.998
800	0.999
900	0.998
1000	0.998
1200	0.998
1400	0.995
1600	0.993
1800	0.977
2000	0.950
2200	0.89
2400	0.86

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	2.0	2.4	2.4	2.6	2.8	3.3	3.9
-20~ 0	2.0	2.5	2.5	2.7	2.9	3.4	4.0
0~20	2.0	2.6	2.6	2.8	3.0	3.5	4.2
20~40	2.0	2.6	2.7	2.8	3.1	3.6	4.3
40~60	2.1	2.7	2.7	2.9	3.2	3.7	4.4
60~80	2.2	2.8	2.8	3.0	3.3	3.8	4.6

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	2.75
Specific Gravity d	2.57
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.