

S-TIM25

Code(d) **673321**

Code(e) **678318**

Refractive Index n_d	1.67270 1.672700	Abbe Number ν_d	32.10	Dispersion n_F-n_C	0.020957
Refractive Index n_e	1.677651	Abbe Number ν_e	31.84	Dispersion $n_F-n_{C'}$	0.021280

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.62988
n_{1970}	1.97009	1.63583
n_{1530}	1.52958	1.64258
n_{1129}	1.12864	1.64933
n_t	1.01398	1.65184
n_s	0.85211	1.65656
$n_{A'}$	0.76819	1.66000
n_r	0.70652	1.66326
n_C	0.65627	1.66661
$n_{C'}$	0.64385	1.66756
$n_{\text{He-Ne}}$	0.6328	1.66846
n_D	0.58929	1.67252
n_d	0.58756	1.67270
n_e	0.54607	1.67765
n_F	0.48613	1.68756
$n_{F'}$	0.47999	1.68884
$n_{\text{He-Cd}}$	0.44157	1.69840
n_g	0.435835	1.70011
n_h	0.404656	1.71126
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1.50659233E+00
A_2	2.04786135E-01
A_3	1.92036668E+00
B_1	1.09501562E-02
B_2	5.74980285E-02
B_3	1.78128535E+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	1.2

Mechanical Properties	
Young's Modulus E (GPa)	84.1
Rigidity Modulus G (GPa)	34.0
Poisson's Ratio σ	0.236
Knoop Hardness Hk(Class)	570 6
Abrasion Aa	146

Partial Dispersions	
n_C-n_t	0.014766
$n_C-n_{A'}$	0.006611
n_d-n_C	0.006093
n_e-n_C	0.011044
n_g-n_d	0.027414
n_g-n_F	0.012550
n_h-n_g	0.011144
n_i-n_g	
n_C-n_t	0.015718
$n_e-n_{C'}$	0.010092
$n_{F'}-n_e$	0.011188
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.7046
$\theta_{C,A'}$	0.3155
$\theta_{d,C}$	0.2907
$\theta_{e,C}$	0.5270
$\theta_{g,d}$	1.3081
$\theta_{g,F}$	0.5988
$\theta_{h,g}$	0.5318
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7386
$\theta'_{e,C'}$	0.4742
$\theta'_{F',e}$	0.5258
$\theta'_{i,F'}$	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0073
$\Delta\theta_{C,A'}$	0.0007
$\Delta\theta_{g,d}$	0.0101
$\Delta\theta_{g,F}$	0.0093
$\Delta\theta_{i,g}$	

Thermal Properties	
Strain Point StP (°C)	556
Annealing Point AP (°C)	585
Transformation Temperature Tg (°C)	608
Yield Point At (°C)	640
Softening Point SP (°C)	700
Expansion Coefficients (-30~+70°C)	79
α (10^{-7}K^{-1}) (+100~+300°C)	95
Thermal Conductivity λ W/(m·K)	1.05

Coloring			
λ_{80}	400	λ_5	360
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	390	$\lambda_{0.05}$	362

CCI		
B	G	R
0.00	2.11	2.17

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	0.01
370	0.24
380	0.60
390	0.80
400	0.89
420	0.957
440	0.974
460	0.981
480	0.986
500	0.989
550	0.995
600	0.996
650	0.995
700	0.996
800	0.999
900	0.998
1000	0.998
1200	0.998
1400	0.995
1600	0.995
1800	0.987
2000	0.977
2200	0.944
2400	0.930

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	1.5	2.2	2.3	2.6	2.9	3.7	4.7
-20~ 0	1.7	2.4	2.4	2.7	3.0	3.9	5.0
0~20	1.7	2.5	2.5	2.8	3.2	4.1	5.2
20~40	1.7	2.6	2.7	2.9	3.4	4.4	5.5
40~60	1.8	2.7	2.8	3.1	3.6	4.6	5.8
60~80	1.9	2.8	2.9	3.3	3.7	4.8	6.1

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	2.81
Specific Gravity d	2.91
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.