

S-TIM28

Code(d) **689311**

Code(e) **694308**

Refractive Index n_d	1.68893 1.688931	Abbe Number ν_d	31.07	Dispersion n_F-n_C	0.022170
Refractive Index n_e	1.694167	Abbe Number ν_e	30.83	Dispersion $n_F-n_{C'}$	0.022516

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.64463
n_{1970}	1.97009	1.65062
n_{1530}	1.52958	1.65745
n_{1129}	1.12864	1.66438
n_t	1.01398	1.66699
n_s	0.85211	1.67192
$n_{A'}$	0.76819	1.67553
n_r	0.70652	1.67896
n_C	0.65627	1.68250
$n_{C'}$	0.64385	1.68350
$n_{\text{He-Ne}}$	0.6328	1.68445
n_D	0.58929	1.68874
n_d	0.58756	1.68893
n_e	0.54607	1.69417
n_F	0.48613	1.70467
$n_{F'}$	0.47999	1.70602
$n_{\text{He-Cd}}$	0.44157	1.71615
n_g	0.435835	1.71797
n_h	0.404656	1.72981
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1.54270810E+00
A_2	2.17113891E-01
A_3	1.81904459E+00
B_1	1.13925005E-02
B_2	5.79224572E-02
B_3	1.67697189E+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)	85.5
Rigidity Modulus G (GPa)	34.4
Poisson's Ratio σ	0.242
Knoop Hardness Hk(Class)	550 6
Abrasion Aa	152

Partial Dispersions	
n_C-n_t	0.015507
$n_C-n_{A'}$	0.006966
n_d-n_C	0.006436
n_e-n_C	0.011672
n_g-n_d	0.029044
n_g-n_F	0.013310
n_h-n_g	0.011834
n_i-n_g	
n_C-n_t	0.016512
$n_e-n_{C'}$	0.010667
$n_{F'}-n_e$	0.011849
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6995
$\theta_{C,A'}$	0.3142
$\theta_{d,C}$	0.2903
$\theta_{e,C}$	0.5265
$\theta_{g,d}$	1.3101
$\theta_{g,F}$	0.6004
$\theta_{h,g}$	0.5338
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7333
$\theta'_{e,C}$	0.4738
$\theta'_{F',e}$	0.5262
$\theta'_{i,F'}$	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0071
$\Delta \theta_{C,A'}$	0.0007
$\Delta \theta_{g,d}$	0.0099
$\Delta \theta_{g,F}$	0.0092
$\Delta \theta_{i,g}$	

Thermal Properties	
Strain Point StP (°C)	560
Annealing Point AP (°C)	588
Transformation Temperature Tg (°C)	611
Yield Point At (°C)	637
Softening Point SP (°C)	701
Expansion Coefficients (-30~+70°C)	82
α (10 ⁻⁷ K ⁻¹) (+100~+300°C)	98
Thermal Conductivity λ W/(m·K)	1.01

Coloring			
λ_{80}	405	λ_5	360
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	391	$\lambda_{0.05}$	362

CCI		
B	G	R
0.00	2.30	2.36

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	0.01
370	0.23
380	0.58
390	0.79
400	0.88
420	0.951
440	0.970
460	0.978
480	0.983
500	0.987
550	0.994
600	0.995
650	0.994
700	0.995
800	0.998
900	0.998
1000	0.998
1200	0.998
1400	0.996
1600	0.996
1800	0.989
2000	0.983
2200	0.961
2400	0.948

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	1.3	1.9	2.0	2.2	2.6	3.4	4.5
-20~ 0	1.3	2.0	2.1	2.3	2.7	3.6	4.7
0~20	1.3	2.1	2.2	2.5	2.9	3.8	5.0
20~40	1.4	2.2	2.3	2.6	3.0	4.0	5.2
40~60	1.4	2.3	2.4	2.7	3.1	4.2	5.5
60~80	1.4	2.4	2.5	2.8	3.3	4.4	5.7

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	2.77
Specific Gravity d	2.98
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.