

L-TIM28

Code(d) **689311**

Code(e) **694308**

Refractive Index n_d	1.68893 1.688931	Abbe Number v_d	31.1 31.08	Dispersion n_F-n_C	0.02217 0.022168
Refractive Index n_e	1.694169	Abbe Number v_e	30.84	Dispersion n_F-n_C	0.022511

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.64569
n_{1970}	1.97009	1.65134
n_{1530}	1.52958	1.65780
n_{1129}	1.12864	1.66448
n_t	1.01398	1.66704
n_s	0.85211	1.67193
$n_{A'}$	0.76819	1.67552
n_r	0.70652	1.67896
n_C	0.65627	1.68249
$n_{C'}$	0.64385	1.68350
$n_{\text{He-Ne}}$	0.6328	1.68444
n_D	0.58929	1.68874
n_d	0.58756	1.68893
n_e	0.54607	1.69417
n_F	0.48613	1.70466
$n_{F'}$	0.47999	1.70601
$n_{\text{He-Cd}}$	0.44157	1.71611
n_g	0.435835	1.71793
n_h	0.404656	1.72970
n_i	0.365015	1.75177

Partial Dispersions	
n_C-n_t	0.015448
$n_C-n_{A'}$	0.006965
n_d-n_C	0.006441
n_e-n_C	0.011679
n_g-n_d	0.028996
n_g-n_F	0.013269
n_h-n_g	0.011773
n_i-n_g	0.033843
n_C-n_t	0.016453
$n_e-n_{C'}$	0.010674
$n_{F'}-n_e$	0.011837
$n_i-n_{F'}$	0.045764

Relative Partial Dispersions	
$\theta_{C,t}$	0.6969
$\theta_{C,A'}$	0.3142
$\theta_{d,C}$	0.2906
$\theta_{e,C}$	0.5268
$\theta_{g,d}$	1.3080
$\theta_{g,F}$	0.5986
$\theta_{h,g}$	0.5311
$\theta_{i,g}$	1.5267
$\theta'_{C,t}$	0.7309
$\theta'_{e,C'}$	0.4742
$\theta'_{F',e}$	0.5258
$\theta'_{i,F}$	2.0330

Thermal Properties	
Strain Point StP (°C)	453
Annealing Point AP (°C)	484
Transformation Temperature Tg (°C)	504
Yield Point At (°C)	539
Softening Point SP (°C)	582
Expansion Coefficients (-30~+70°C)	101
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	130
Thermal Conductivity k (W/m-K)	1.02

Coloring			
λ_{80}	40	λ_5	36
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	
350	
360	0.16
370	0.57
380	0.80
390	0.89
400	0.929
420	0.964
440	0.974
460	0.980
480	0.984
500	0.989
550	0.997
600	0.996
650	
700	
800	
900	
1000	
1200	
1400	
1600	
1800	
2000	
2200	
2400	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0044
$\Delta\theta_{C,A'}$	0.0007
$\Delta\theta_{g,d}$	0.0078
$\Delta\theta_{g,F}$	0.0074
$\Delta\theta_{i,g}$	0.0619

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	845
Rigidity Modulus G (10^8N/m^2)	337
Poisson's Ratio σ	0.254
Knoop Hardness Hk[Class]	530 5
Abrasion Aa	197
Photoelastic Constant β (nm/cm/ 10^5Pa)	

Constants of Dispersion Formula	
A ₁	1.58039099E+00
A ₂	1.78294323E-01
A ₃	1.14876204E+00
B ₁	1.25270147E-02
B ₂	6.02807505E-02
B ₃	1.16215055E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	2
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

Other Properties	
Bubble Quality Group B	
Specific Gravity d	2.88
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative ($10^{-6}/^\circ\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20		-0.3	-0.2	0.1	0.4	1.3	2.3
-20~0		-0.3	-0.2	0.1	0.5	1.4	2.5
0~20		-0.3	-0.2	0.1	0.5	1.5	2.6
20~40		-0.3	-0.2	0.1	0.5	1.5	2.7
40~60		-0.3	-0.2	0.1	0.5	1.6	2.9
60~80		-0.3	-0.3	0.1	0.6	1.7	3.0