

L-TIM28P

Code(d) **695307**

Code(e) **700304**

Refractive Index n_d	1.69453 1.694530	Abbe Number ν_d	30.66	Dispersion n_F-n_C	0.022656
Refractive Index n_e	1.699883	Abbe Number ν_e	30.42	Dispersion n_F-n_C'	0.023009

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.65099
n_{1970}	1.97009	1.65653
n_{1530}	1.52958	1.66294
n_{1129}	1.12864	1.66966
n_t	1.01398	1.67224
n_s	0.85211	1.67720
$n_{A'}$	0.76819	1.68086
n_r	0.70652	1.68435
n_C	0.65627	1.68796
$n_{C'}$	0.64385	1.68898
$n_{\text{He-Ne}}$	0.6328	1.68995
n_D	0.58929	1.69433
n_d	0.58756	1.69453
n_e	0.54607	1.69988
n_F	0.48613	1.71061
$n_{F'}$	0.47999	1.71199
$n_{\text{He-Cd}}$	0.44157	1.72233
n_g	0.435835	1.72419
n_h	0.404656	1.73622
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1.53013396E+00
A_2	2.45362280E-01
A_3	1.78233031E+00
B_1	1.14236857E-02
B_2	5.55101852E-02
B_3	1.79074300E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
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

Mechanical Properties	
Young's Modulus E (10^9N/m^2)	845
Rigidity Modulus G (10^9N/m^2)	337
Poisson's Ratio σ	0.254
Knoop Hardness Hk[Class]	530 5
Abrasion Aa	217
Photoelastic Constant β nm/(cm· 10^5Pa)	2.62

Partial Dispersions	
n_C-n_t	0.015711
$n_C-n_{A'}$	0.007096
n_d-n_C	0.006575
n_e-n_C	0.011928
n_g-n_d	0.029657
n_g-n_F	0.013576
n_h-n_g	0.012032
n_i-n_g	
n_C-n_t	0.016737
$n_e-n_{C'}$	0.010902
n_F-n_e	0.012107
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6935
$\theta_{C,A'}$	0.3132
$\theta_{d,C}$	0.2902
$\theta_{e,C}$	0.5265
$\theta_{g,d}$	1.3090
$\theta_{g,F}$	0.5992
$\theta_{h,g}$	0.5311
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7274
$\theta'_{e,C'}$	0.4738
$\theta'_{F,e}$	0.5262
$\theta'_{i,F'}$	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0030
$\Delta\theta_{C,A'}$	0.0002
$\Delta\theta_{g,d}$	0.0080
$\Delta\theta_{g,F}$	0.0073
$\Delta\theta_{i,g}$	

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 λ W/(m·K)	1.02

Coloring			
λ_{80}	400	λ_5	355
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	379	$\lambda_{0.05}$	352

CCI		
B	G	R
0.00	1.29	1.27

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	0.01
360	0.21
370	0.60
380	0.82
390	0.903
400	0.940
420	0.969
440	0.979
460	0.984
480	0.988
500	0.991
550	0.997
600	0.996
650	0.995
700	0.997
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.998
1600	0.995
1800	0.980
2000	0.962
2200	0.927
2400	0.89

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative ($10^{-6}/^\circ\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	-1.1	-0.2	-0.2	0.1	0.5	1.4	2.4
-20~ 0	-1.1	-0.3	-0.2	0.1	0.5	1.4	2.5
0~20	-1.2	-0.3	-0.2	0.1	0.5	1.5	2.7
20~40	-1.3	-0.4	-0.3	0.0	0.5	1.5	2.7
40~60	-1.4	-0.4	-0.3	0.0	0.5	1.6	2.9
60~80	-1.4	-0.4	-0.3	0.1	0.5	1.7	3.0

Other Properties	
Bubble Quality Group B	B
Specific Gravity d	2.88
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.