

L-TIH53

Code(d) **847238**

Code(e) **855236**

Refractive Index n_d	1.84666 1.846660	Abbe Number ν_d	23.8 23.77	Dispersion n_F-n_C	0.03561 0.035614
Refractive Index n_e	1.855043	Abbe Number ν_e	23.59	Dispersion $n_F-n_{C'}$	0.036251

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.78361
n_{1970}	1.97009	1.79092
n_{1530}	1.52958	1.79958
n_{1129}	1.12864	1.80903
n_t	1.01398	1.81279
n_s	0.85211	1.82014
$n_{A'}$	0.76819	1.82565
n_r	0.70652	1.83096
n_C	0.65627	1.83648
$n_{C'}$	0.64385	1.83806
$n_{\text{He-Ne}}$	0.6328	1.83955
n_D	0.58929	1.84635
n_d	0.58756	1.84666
n_e	0.54607	1.85504
n_F	0.48613	1.87209
$n_{F'}$	0.47999	1.87431
$n_{\text{He-Cd}}$	0.44157	1.89112
n_g	0.435835	1.89417
n_h	0.404656	1.91423
n_i	0.365015	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0068
$\Delta\theta_{C,A'}$	-0.0004
$\Delta\theta_{g,d}$	0.0187
$\Delta\theta_{g,F}$	0.0168
$\Delta\theta_{i,g}$	

Constants of Dispersion Formula	
A_1	1.83464643E+00
A_2	4.15079602E-01
A_3	2.82563492E+00
B_1	1.34992001E-02
B_2	6.18608854E-02
B_3	2.01629170E+02

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.34
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	1.2	2.3	2.3	2.7	3.3	4.7	6.4
-20~ 0	1.1	2.3	2.4	2.8	3.4	5.0	6.8
0~20	1.1	2.4	2.5	3.0	3.6	5.2	7.2
20~40	1.1	2.5	2.6	3.0	3.7	5.4	7.5
40~60	1.2	2.6	2.7	3.2	3.9	5.7	7.9
60~80	1.3	2.8	2.9	3.4	4.1	6.0	8.3

Partial Dispersions	
n_C-n_t	0.023685
$n_C-n_{A'}$	0.010832
n_d-n_C	0.010180
n_e-n_C	0.018563
n_g-n_d	0.047509
n_g-n_F	0.022075
n_h-n_g	0.020063
n_i-n_g	
n_C-n_t	0.025265
$n_e-n_{C'}$	0.016983
$n_F-n_{C'}$	0.019268
$n_i-n_{F'}$	

Thermal Properties	
Strain Point StP (°C)	
Annealing Point AP (°C)	
Transformation Temperature Tg (°C)	561
Yield Point At (°C)	598
Softening Point SP (°C)	
Expansion Coefficients (-30~+70°C)	78
α ($10^{-7}/^{\circ}\text{C}$) (+100~+300°C)	91
Thermal Conductivity k (W/m·K)	1.044

Mechanical Properties	
Young's Modulus E (10^9N/m^2)	970
Rigidity Modulus G (10^9N/m^2)	387
Poisson's Ratio σ	0.253
Knoop Hardness Hk[Class]	520 5
Abrasion Aa	157
Photoelastic Constant β (nm/cm/ 10^9Pa)	

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group WS	3
Acid Resistance(Surface) Group SR	1.0
Phosphate Resistance PR	1.0

Relative Partial Dispersions	
$\theta_{C,t}$	0.6650
$\theta_{C,A'}$	0.3042
$\theta_{d,C}$	0.2858
$\theta_{e,C}$	0.5212
$\theta_{g,d}$	1.3340
$\theta_{g,F}$	0.6198
$\theta_{h,g}$	0.5633
$\theta_{i,g}$	
$\theta'_{C,t}$	0.6969
$\theta'_{e,C'}$	0.4685
$\theta'_{F,e}$	0.5315
$\theta'_{i,F}$	

Coloring			
λ_{80}		λ_5	370
λ_{70}	420		

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	
370	0.08
380	0.32
390	0.55
400	0.71
420	0.87
440	0.93
460	0.954
480	0.967
500	0.976
550	0.99
600	0.992
650	0.989
700	0.992
800	0.997
900	0.998
1000	0.998
1200	0.999
1400	0.996
1600	0.994
1800	0.986
2000	0.981
2200	0.956
2400	0.934