

L-NBH54

Code(d) **902251**

Code(e) **910249**

Refractive Index n_d	Abbe Number v_d	Dispersion n_F-n_C
1.90200 1.902000	25.1 25.10	0.03594 0.035935
Refractive Index n_e	Abbe Number v_e	Dispersion n_F-n_C'
1.910471	24.91	0.036549

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.83690
n_{1970}	1.97009	1.84461
n_{1530}	1.52958	1.85370
n_{1129}	1.12864	1.86355
n_t	1.01398	1.86743
n_s	0.85211	1.87499
$n_{A'}$	0.76819	1.88063
n_r	0.70652	1.88605
n_C	0.65627	1.89167
$n_{C'}$	0.64385	1.89328
$n_{\text{He-Ne}}$	0.6328	1.89479
n_D	0.58929	1.90169
n_d	0.58756	1.90200
n_e	0.54607	1.91047
n_F	0.48613	1.92761
$n_{F'}$	0.47999	1.92982
$n_{\text{He-Cd}}$	0.44157	1.94657
n_g	0.435835	1.94959
n_h	0.404656	1.96936
n_i	0.365015	

Partial Dispersions	
n_C-n_t	0.024236
$n_C-n_{A'}$	0.011044
n_d-n_C	0.010329
n_e-n_C	0.018800
n_g-n_d	0.047589
n_g-n_F	0.021983
n_h-n_g	0.019773
n_i-n_g	
n_C-n_t	0.025842
$n_e-n_{C'}$	0.017194
$n_{F'-n_e}$	0.019352
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6744
$\theta_{C,A'}$	0.3073
$\theta_{d,C}$	0.2874
$\theta_{e,C}$	0.5232
$\theta_{g,d}$	1.3243
$\theta_{g,F}$	0.6117
$\theta_{h,g}$	0.5502
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7071
$\theta'_{e,C'}$	0.4705
$\theta'_{F',e}$	0.5295
$\theta'_{i,F}$	

Thermal Properties	
Strain Point StP (°C)	
Annealing Point AP (°C)	
Transformation Temperature Tg (°C)	547
Yield Point At (°C)	586
Softening Point SP (°C)	
Expansion Coefficients (-30~+70°C)	81
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	99
Thermal Conductivity k (W/m-K)	1.184

Coloring			
λ_{80}		λ_5	37
λ_{70}	44		

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	
350	
360	
370	0.07
380	0.24
390	0.41
400	0.56
420	0.76
440	0.86
460	0.916
480	0.943
500	0.96
550	0.985
600	0.993
650	0.994
700	0.996
800	0.998
900	0.998
1000	0.999
1200	0.999
1400	0.998
1600	0.997
1800	0.994
2000	0.989
2200	0.976
2400	0.946

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0100
$\Delta\theta_{C,A'}$	0.0010
$\Delta\theta_{g,d}$	0.0117
$\Delta\theta_{g,F}$	0.0108
$\Delta\theta_{i,g}$	

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	1093
Rigidity Modulus G (10^8N/m^2)	454
Poisson's Ratio σ	0.205
Knoop Hardness Hk[Class]	580 6
Abrasion Aa	114
Photoelastic Constant β (nm/cm/ 10^5Pa)	2.71

Constants of Dispersion Formula	
A_1	2.00722652E+00
A_2	4.42086773E-01
A_3	3.37287426E+00
B_1	1.35705124E-02
B_2	5.91808873E-02
B_3	2.19832665E-02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	4
Acid Resistance(Surface) Group SR	2.0
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.64
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	2.7	4.0	4.1	4.5	5.1	6.5	8.3
-20~ 0	2.6	4.0	4.1	4.6	5.2	6.7	8.7
0~20	2.6	4.1	4.2	4.6	5.3	6.9	9.0
20~40	2.5	4.1	4.2	4.6	5.3	7.0	9.3
40~60	2.5	4.2	4.3	4.7	5.4	7.2	9.6
60~80	2.7	4.4	4.5	4.9	5.6	7.4	10.2