

S-TIM35

Code(d) **699301**

Code(e) **704299**

Refractive Index n_d	1.69895	Abbe Number v_d	30.1	Dispersion n_F-n_C	0.02320
	1.698947		30.13		0.023199
Refractive Index n_e	1.704424	Abbe Number v_e	29.89	Dispersion n_F-n_C'	0.023567

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.65283
n_{1970}	1.97009	1.65905
n_{1530}	1.52958	1.66615
n_{1129}	1.12864	1.67335
n_t	1.01398	1.67606
n_s	0.85211	1.68120
$n_{A'}$	0.76819	1.68496
n_r	0.70652	1.68854
n_C	0.65627	1.69222
$n_{C'}$	0.64385	1.69327
$n_{\text{He-Ne}}$	0.6328	1.69426
n_D	0.58929	1.69875
n_d	0.58756	1.69895
n_e	0.54607	1.70442
n_F	0.48613	1.71542
$n_{F'}$	0.47999	1.71684
$n_{\text{He-Cd}}$	0.44157	1.72750
n_g	0.435835	1.72941
n_h	0.404656	1.74189
n_i	0.365015	

Partial Dispersions	
n_C-n_t	0.016161
$n_C-n_{A'}$	0.007266
n_d-n_C	0.006722
n_e-n_C	0.012199
n_g-n_d	0.030465
n_g-n_F	0.013988
n_h-n_g	0.012478
n_i-n_g	
n_C-n_t	0.017210
$n_e-n_{C'}$	0.011150
$n_{F'}-n_e$	0.012417
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6966
$\theta_{C,A'}$	0.3132
$\theta_{d,C}$	0.2898
$\theta_{e,C}$	0.5258
$\theta_{g,d}$	1.3132
$\theta_{g,F}$	0.6030
$\theta_{h,g}$	0.5379
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7303
$\theta'_{e,C'}$	0.4731
$\theta'_{F',e}$	0.5269
$\theta'_{i,F}$	

Thermal Properties	
Strain Point StP (°C)	579
Annealing Point AP (°C)	603
Transformation Temperature Tg (°C)	622
Yield Point At (°C)	648
Softening Point SP (°C)	716
Expansion Coefficients (-30~+70°C)	75
α (10 ⁻⁷ /°C) (+100~+300°C)	89
Thermal Conductivity k (W/m·K)	1.049

Coloring			
λ_{80}	40	λ_5	37
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	
350	
360	
370	0.14
380	0.48
390	0.72
400	0.84
420	0.939
440	0.964
460	0.974
480	0.981
500	0.986
550	0.994
600	0.994
650	0.993
700	0.995
800	0.998
900	0.999
1000	0.999
1200	0.999
1400	0.995
1600	0.995
1800	0.988
2000	0.980
2200	0.942
2400	0.931

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0086
$\Delta\theta_{C,A'}$	0.0008
$\Delta\theta_{g,d}$	0.0111
$\Delta\theta_{g,F}$	0.0103
$\Delta\theta_{i,g}$	

Mechanical Properties	
Young's Modulus E (10 ⁸ N/m ²)	875
Rigidity Modulus G (10 ⁸ N/m ²)	353
Poisson's Ratio σ	0.238
Knoop Hardness Hk[Class]	500 5
Abrasion Aa	136
Photoelastic Constant β (nm/cm/10 ⁵ Pa)	3.04

Constants of Dispersion Formula	
A ₁	1.55849775E+00
A ₂	2.30767007E-01
A ₃	1.84436099E+00
B ₁	1.15367235E-02
B ₂	5.86095947E-02
B ₃	1.62981888E+02

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

Other Properties	
Bubble Quality Group B	
Specific Gravity d	2.96
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative (10 ⁻⁶ /°C)						
	t	C'	He-Ne	D	e	F'	g
-40~20	2.0	2.8	2.8	3.1	3.5	4.4	5.5
-20~ 0	2.1	2.9	3.0	3.3	3.7	4.6	5.8
0~20	2.1	3.0	3.1	3.4	3.8	4.9	6.1
20~40	2.3	3.2	3.2	3.6	4.0	5.1	6.4
40~60	2.4	3.3	3.4	3.7	4.2	5.3	6.7
60~80	2.4	3.4	3.5	3.9	4.4	5.6	7.0