S-TIM3

613370
617367

Refractive Index	n_d	**1.61293**	Abbe Number	ν_d	**37.00**	Dispersion	$n_F - n_C$	**0.01657**
	n_e	1.612929		ν_e	36.73		$n_{F'} - n_{C'}$	0.016564
		1.616851						0.016792

Refractive Indices

	λ (μm)	
n_{2325}	2.32542	1.57589
n_{1970}	1.97009	1.58154
n_{1530}	1.52958	1.58781
n_{1129}	1.12864	1.59381
n_t	1.01398	1.59595
n_s	0.85211	1.59990
$n_{A'}$	0.76819	1.60272
n_r	0.70652	1.60537
n_C	0.65627	**1.60806**
$n_{C'}$	0.64385	1.60883
n_{He-Ne}	0.6328	1.60954
n_D	0.58929	1.61278
n_d	0.58756	**1.61293**
n_e	0.54607	1.61685
n_F	0.48613	**1.62463**
$n_{F'}$	0.47999	1.62562
n_{He-Cd}	0.44157	1.63302
n_g	0.435835	**1.63434**
n_h	0.404656	1.64284
n_i	0.365015	1.65850
n_{334}	0.334148	
n_{326}	0.326106	

Thermal Properties

Strain Point. (°C)	**StP**	548
Annealing Point (°C)	**AP**	577
Transformation Temperature (°C)	**Tg**	597
Yield Point (°C)	**At**	633
Softening Point (°C)	**SP**	708
Expansion Coefficient (10^{-7} /°C) α	(-30~+70°C)	77
	(+100~+300°C)	91
Thermal Conductivity (W/m·K)	**k**	1.044

Mechanical Properties

Young's Modulus (10^8N/m^2)	**E**	779
Rigidity Modulus (10^8N/m^2)	**G**	317
Poisson's Ratio	σ	0.229
Knoop Hardness	**Hk**	510 [5]
Abrasion	**Aa**	129
Photoelastic Constant (nm/cm/10^5 Pa)	β	2.91

Partial Dispersions

$n_C - n_t$	0.012109
$n_C - n_{A'}$	0.005347
$n_d - n_C$	0.004867
$n_e - n_C$	0.008789
$n_g - n_d$	0.021407
$n_g - n_F$	0.009710
$n_h - n_g$	0.008506
$n_i - n_g$	0.024167
$n_{C'} - n_t$	0.012873
$n_e - n_{C'}$	0.008025
$n_{F'} - n_e$	0.008767
$n_i - n_{F'}$	0.032885

Deviation of Relative Partial Dispersions

$\Delta\theta_{C,t}$	0.0107
$\Delta\theta_{C,A'}$	0.0021
$\Delta\theta_{g,d}$	0.0045
$\Delta\theta_{g,F}$	0.0046
$\Delta\theta_{i,g}$	0.0438

Constants of Dispersion Formula

326 ~ 1129 nm		
A_1	1.40691144	
A_2	1.28369745	E-1
A_3	1.51826191	
B_1	1.05633641	E-2
B_2	5.68483105	E-2
B_3	1.52107924	E2
1129 ~ 2325 nm		
A_1	1.40691144	
A_2	1.28369745	E-1
A_3	1.51826191	
B_1	1.05633641	E-2
B_2	5.68483105	E-2
B_3	1.52107924	E2

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

Relative Partial Dispersions

$\theta_{C,t}$	0.7310
$\theta_{C,A'}$	0.3228
$\theta_{d,C}$	0.2938
$\theta_{e,C}$	0.5306
$\theta_{g,d}$	1.2924
$\theta_{g,F}$	0.5862
$\theta_{h,g}$	0.5135
$\theta_{i,g}$	1.4590
$\theta'_{C',t}$	0.7666
$\theta'_{e,C'}$	0.4779
$\theta'_{F',e}$	0.5221
$\theta'_{i,F'}$	1.9584

Internal Transmittance

λ_{80}	381	λ_5	358

CCI

B	G	R
0.00	1.09	1.10

Internal Transmittance

λ (nm)	τ i 10 mm	τ i 25 mm
280		
290		
300		
310		
320		
330		
340		
350		
360	0.130	
365		
370	0.530	
380	0.790	
390	0.907	
400	0.950	
420	0.976	
440	0.984	
460	0.986	
480	0.989	
500	0.992	
550	0.996	
600	0.996	
650	0.995	
700	0.997	
800	0.999	
900	0.998	
1000	0.996	
1200	0.996	
1400	0.994	
1600	0.994	
1800	0.983	
2000	0.971	
2200	0.929	
2400	0.913	

Other Properties

Bubble Quality Group	**B**		Coloring	$\lambda_{80}/\lambda_{70}$	39		
Specific Gravity	**d**	2.67		λ_5	36		

Temperature Coefficients of Refractive Index

Range of Temperature (°C)	dn / dT relative (10^{-6}/°C)							
	t	C'	He-Ne	D	e	F'	g	i
-40 ~ -20	1.8	2.4	2.5	2.7	3.0	3.6	4.3	
-20 ~ 0	1.8	2.5	2.6	2.8	3.1	3.8	4.5	
0 ~ 20	2.0	2.6	2.7	3.0	3.2	3.9	4.7	
20 ~ 40	2.1	2.8	2.8	3.1	3.4	4.1	5.0	
40 ~ 60	2.2	2.9	2.9	3.2	3.5	4.3	5.2	
60 ~ 80	2.3	3.0	3.0	3.3	3.6	4.4	5.4	