S-TIH23

Code(d) **785263**
Code(e) **792261**

Refractive Index	n_d	**1,78470** 1,784696	Abbe Number	ν_d	**26,29**	Dispersion	n_F-n_C	**0,029847**
Refractive Index	n_e	1,791730	Abbe Number	ν_e	26,08	Dispersion	$n_{F'}-n_{C'}$	0,030359

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1,73102
n_{1970}	1.97009	1,73732
n_{1530}	1.52958	1,74475
n_{1129}	1.12864	1,75284
n_t	1.01398	1,75605
n_s	0.85211	1,76230
$n_{A'}$	0.76819	1,76697
n_r	0.70652	1,77147
n_C	0.65627	1,77613
$n_{C'}$	0.64385	1,77746
n_{He-Ne}	0.6328	1,77871
n_D	0.58929	1,78444
n_d	0.58756	1,78470
n_e	0.54607	1,79173
n_F	0.48613	1,80597
$n_{F'}$	0.47999	1,80782
n_{He-Cd}	0.44157	1,82176
n_g	0.435835	1,82428
n_h	0.404656	1,84081
n_i	0.365015	

Constants of Dispersion Formula	
A_1	1,73986485E+00
A_2	3,13894918E-01
A_3	2,31093206E+00
B_1	1,29441300E-02
B_2	6,12116868E-02
B_3	1,97420482E+02

Chemical Properties	
Water Resistance (Powder) Group RW(P)	1
Acid Resistance (Powder) Group RA(P)	1
Weathering Resistance (Surface) Group	2
Acid Resistance (Surface) Group SR	1.0
Phosphate Resistance PR	1.0

Mechanical Properties		
Young's Modulus E (10^8N/m^2)	922	
Rigidity Modulus G (10^8N/m^2)	366	
Poisson's Ratio σ	0,260	
Knoop Hardness Hk [Class]	540	5
Abrasion Aa	191	
Photoelastic Constant β (nm/cm/10^5Pa)	2,69	

Partial Dispersions	
n_C-n_t	0,020074
$n_C-n_{A'}$	0,009156
n_d-n_C	0,008571
n_e-n_C	0,015605
n_g-n_d	0,039588
n_g-n_F	0,018312
n_h-n_g	0,016524
n_i-n_g	
$n_{C'}-n_t$	0,021407
$n_e-n_{C'}$	0,014272
$n_{F'}-n_e$	0,016087
$n_i-n_{F'}$	

Relative Partial Dispersion	
$\theta_{C,t}$	0,6726
$\theta_{C,A'}$	0,3068
$\theta_{d,C}$	0,2872
$\theta_{e,C}$	0,5228
$\theta_{g,d}$	1,3264
$\theta_{g,F}$	0,6135
$\theta_{h,g}$	0,5536
$\theta_{i,g}$	
$\theta'_{C',t}$	0,7051
$\theta'_{e,C'}$	0,4701
$\theta'_{F',e}$	0,5299
$\theta'_{i,F'}$	

Deviation of Relative Dispersions	
$\Delta\theta_{C,t}$	0,0026
$\Delta\theta_{C,A'}$	-0,0009
$\Delta\theta_{g,d}$	0,0163
$\Delta\theta_{g,F}$	0,0146
$\Delta\theta_{i,g}$	

Thermal Properties		
Strain Point StP (°C)		561
Annealing Point AP (°C)		586
Transformation Temperature Tg (°C)		604
Yield Point At (°C)		635
Softening Point SP (°C)		684
Expansion Coefficients α (10^{-7}/°C)	(-30~+70°C)	88
	(+100~+300°C)	106
Thermal Conductivity k (W/m·K)		0,992

Coloring			
λ_{80}	435	λ_5	365
λ_{70}			

Internal Transmittance			
$\lambda_{0.80}$	400	$\lambda_{0.05}$	368

CCI		
B	G	R
0,00	3,88	3,97

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	
360	
370	0,12
380	0,44
390	0,67
400	0,80
420	0,906
440	0,947
460	0,962
480	0,972
500	0,979
550	0,992
600	0,992
650	0,991
700	0,993
800	0,998
900	0,998
1000	0,998
1200	0,999
1400	0,997
1600	0,996
1800	0,988
2000	0,981
2200	0,962
2400	0,937

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	-0,3	0,5	0,6	1,0	1,4	2,6	4,1
-20~ 0	-0,2	0,7	0,7	1,1	1,6	2,9	4,4
0~20	-0,1	0,8	0,9	1,3	1,8	3,1	4,8
20~40	-0,1	0,9	1,0	1,4	2,0	3,4	5,1
40~60	0,0	1,0	1,1	1,5	2,2	3,7	5,5
60~80	0,1	1,2	1,2	1,7	2,3	3,9	5,8

Other Properties	
Bubble Quality Group B	
Density d	3,30
Remarks	

© OHARA GmbH, Hofheim Germany