

S-FSL5Y

Code(d) **487703**

Code(e) **489702**

Refractive Index n_d	1.48749 1.487490	Abbe Number ν_d	70.36	Dispersion n_F-n_C	0.006929
Refractive Index n_e	1.489145	Abbe Number ν_e	70.17	Dispersion n_F-n_C	0.006971

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.46218
n_{1970}	1.97009	1.46761
n_{1530}	1.52958	1.47323
n_{1129}	1.12864	1.47778
n_t	1.01398	1.47915
n_s	0.85211	1.48138
$n_{A'}$	0.76819	1.48282
n_r	0.70652	1.48410
n_C	0.65627	1.48535
$n_{C'}$	0.64385	1.48569
$n_{\text{He-Ne}}$	0.6328	1.48601
n_D	0.58929	1.48743
n_d	0.58756	1.48749
n_e	0.54607	1.48915
n_F	0.48613	1.49228
$n_{F'}$	0.47999	1.49266
$n_{\text{He-Cd}}$	0.44157	1.49546
n_g	0.435835	1.49594
n_h	0.404656	1.49896
n_i	0.365015	1.50404
n_{334}	0.334148	1.50946
n_{326}	0.326106	1.51116

Constants of Dispersion Formula	
A_1	9.77409944E-01
A_2	2.10950834E-01
A_3	1.37142848E+00
B_1	5.57649364E-03
B_2	1.77000313E-02
B_3	1.49211443E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	3
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	3.0
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	622
Rigidity Modulus G (10^8N/m^2)	253
Poisson's Ratio σ	0.229
Knoop Hardness Hk[Class]	530 5
Abrasion Aa	113
Photoelastic Constant β (nm/cm/10 ⁹ Pa)	2.87

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	i	
-40~-20	-1.2	-1.2	-1.2	-1.1	-1.1	-0.9	-0.7	-0.3	
-20~ 0	-1.2	-1.1	-1.1	-1.0	-1.0	-0.8	-0.6	-0.2	
0~20	-1.2	-1.0	-1.0	-0.9	-0.8	-0.7	-0.5	0.0	
20~40	-1.1	-0.9	-0.9	-0.8	-0.7	-0.6	-0.4	0.1	
40~60	-1.0	-0.8	-0.8	-0.7	-0.6	-0.5	-0.3	0.3	
60~80	-1.0	-0.7	-0.7	-0.6	-0.5	-0.3	-0.1	0.4	

Partial Dispersions	
n_C-n_t	0.006201
$n_C-n_{A'}$	0.002523
n_d-n_C	0.002144
n_e-n_C	0.003799
n_g-n_d	0.008455
n_g-n_F	0.003670
n_h-n_g	0.003015
n_i-n_g	0.008099
n_C-n_t	0.006546
$n_e-n_{C'}$	0.003454
n_F-n_e	0.003517
n_i-n_F	0.011382

Relative Partial Dispersions	
$\theta_{C,t}$	0.8949
$\theta_{C,A'}$	0.3641
$\theta_{d,C}$	0.3094
$\theta_{e,C}$	0.5483
$\theta_{g,d}$	1.2202
$\theta_{g,F}$	0.5297
$\theta_{h,g}$	0.4351
$\theta_{i,g}$	1.1689
$\theta'_{C,t}$	0.9390
$\theta'_{e,C'}$	0.4955
$\theta'_{F,e}$	0.5045
$\theta'_{i,F'}$	1.6328

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0181
$\Delta\theta_{C,A'}$	0.0029
$\Delta\theta_{g,d}$	0.0016
$\Delta\theta_{g,F}$	0.0021
$\Delta\theta_{i,g}$	0.0331

Thermal Properties	
Strain Point StP (°C)	465
Annealing Point AP (°C)	502
Transformation Temperature Tg (°C)	500
Yield Point At (°C)	567
Softening Point SP (°C)	676
Expansion Coefficients (-30~+70°C)	89
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	97
Thermal Conductivity k (W/m·K)	1.00

Coloring			
λ_{80}	295	λ_5	270
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	298	$\lambda_{0.05}$	277

CCI		
B	G	R
0.00	0.00	0.00

Internal Transmittance		
$\lambda(\text{nm})$	τ 10mm	τ 25mm
240		
250		
260		
270		
280	0.19	0.01
290	0.61	0.29
300	0.86	0.68
310	0.954	0.89
320	0.984	0.961
330	0.993	0.983
340	0.997	0.993
350	0.998	0.995
360	0.998	0.996
365	0.999	0.997
370	0.999	0.998
380	0.999	0.998
390	0.999	0.998
400	0.999	0.999
420	0.999	0.999
440	0.999	0.999
460	0.999	0.999
480	0.999	0.999
500	0.999	0.999
550	0.999	0.999
600	0.999	0.999
650	0.999	0.998
700	0.999	0.999
800	0.999	0.999
900	0.999	0.997
1000	0.998	0.994
1200	0.997	0.992
1400	0.981	0.952
1600	0.991	0.977
1800	0.983	0.958
2000	0.968	0.921
2200	0.860	0.70
2400	0.850	0.67

Other Properties	
Bubble Quality Group B	
Specific Gravity d	2.46
Remarks	

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