

S-FPM 2

Code(d) **595677**

Code(e) **597674**

Refractive Index n_d	1.59522 1.595220	Abbe Number ν_d	67.74	Dispersion n_F-n_C	0.008787
Refractive Index n_e	1.597316	Abbe Number ν_e	67.37	Dispersion n_F-n_C'	0.008866

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.57252
n_{1970}	1.97009	1.57631
n_{1530}	1.52958	1.58045
n_{1129}	1.12864	1.58426
n_t	1.01398	1.58557
n_s	0.85211	1.58791
$n_{A'}$	0.76819	1.58954
n_f	0.70652	1.59105
n_C	0.65627	1.59255
$n_{C'}$	0.64385	1.59298
$n_{\text{He-Ne}}$	0.6328	1.59337
n_D	0.58929	1.59514
n_d	0.58756	1.59522
n_e	0.54607	1.59732
n_F	0.48613	1.60134
$n_{F'}$	0.47999	1.60184
$n_{\text{He-Cd}}$	0.44157	1.60549
n_g	0.435835	1.60612
n_h	0.404656	1.61008
n_i	0.365015	1.61681

Constants of Dispersion Formula	
A_1	7.61242785E-01
A_2	7.47033375E-01
A_3	9.38928947E-01
B_1	3.21174095E-03
B_2	1.40234423E-02
B_3	1.39523530E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	51.3
Phosphate Resistance PR	4.1

Mechanical Properties	
Young's Modulus E (GPa)	75.7
Rigidity Modulus G (GPa)	29.4
Poisson's Ratio σ	0.287
Knoop Hardness Hk(Class)	390 4
Abrasion Aa	521

Partial Dispersions	
n_C-n_t	0.006988
$n_C-n_{A'}$	0.003015
n_d-n_C	0.002665
n_e-n_C	0.004761
n_g-n_d	0.010904
n_g-n_F	0.004782
n_h-n_g	0.003960
n_i-n_g	0.010681
n_C-n_t	0.007411
$n_e-n_{C'}$	0.004338
$n_{F'}-n_e$	0.004528
$n_i-n_{F'}$	0.014961

Relative Partial Dispersions	
$\theta_{C,t}$	0.7953
$\theta_{C,A'}$	0.3431
$\theta_{d,C}$	0.3033
$\theta_{e,C}$	0.5418
$\theta_{g,d}$	1.2409
$\theta_{g,F}$	0.5442
$\theta_{h,g}$	0.4507
$\theta_{i,g}$	1.2155
$\theta'_{C,t}$	0.8359
$\theta'_{e,C}$	0.4893
$\theta'_{F,e}$	0.5107
$\theta'_{i,F'}$	1.6875

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	-0.0692
$\Delta \theta_{C,A'}$	-0.0149
$\Delta \theta_{g,d}$	0.0169
$\Delta \theta_{g,F}$	0.0123
$\Delta \theta_{i,g}$	0.0577

Thermal Properties	
Strain Point StP (°C)	-
Annealing Point AP (°C)	-
Transformation Temperature Tg (°C)	571
Yield Point At (°C)	596
Softening Point SP (°C)	-
Expansion Coefficients (-30~+70°C)	117
α (10^{-7}K^{-1}) (+100~+300°C)	135
Thermal Conductivity λ W/(m·K)	0.624

Coloring			
λ_{80}	355	λ_5	295
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	347	$\lambda_{0.05}$	302

CCI		
B	G	R
0.00	0.32	0.27

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	0.18
320	0.35
330	0.54
340	0.72
350	0.84
360	0.917
370	0.958
380	0.980
390	0.988
400	0.991
420	0.989
440	0.989
460	0.992
480	0.994
500	0.996
550	0.998
600	0.997
650	0.996
700	0.996
800	0.995
900	0.995
1000	0.996
1200	0.997
1400	0.997
1600	0.997
1800	0.995
2000	0.992
2200	0.989
2400	0.983

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n/\Delta T$ relative (10^{-6}K^{-1})						
	t	C'	He-Ne	D	e	F'	g
-40~-20	-5.8	-5.5	-5.5	-5.4	-5.3	-5.1	-4.9
-20~ 0	-6.0	-5.7	-5.7	-5.6	-5.5	-5.3	-5.1
0~20	-6.1	-5.9	-5.9	-5.8	-5.7	-5.5	-5.2
20~40	-6.3	-6.1	-6.1	-6.0	-5.9	-5.6	-5.4
40~60	-6.4	-6.2	-6.1	-6.1	-5.9	-5.7	-5.4
60~80	-6.5	-6.2	-6.2	-6.1	-6.0	-5.7	-5.5

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	0.51
Specific Gravity d	4.17
Remarks	

OHARA 23-05

OHARA Copyright© OHARA INC. All Rights Reserved.

※The name of the glass type is the model number assigned based on the main components of the composition: large, medium, small refractive index and serial number.