

J-SF7

$n_d = 1.639800$

$n_e = 1.644181$

$v_d = 34.55$

$v_e = 34.29$

Glass code (d)
640346
Glass code (e)
644343

Spectral l.	Refractive idx
2.058	1.60479
1.970	1.60615
1.530	1.61255
1.129	1.61881
1.064	1.62005
t	1.62111
s	1.62539
A'	1.628474
r	1.631397
C	1.634385
C'	1.635233
He-Ne	1.636029
D	1.639639
d	1.639800
e	1.644181
F	1.652905
F'	1.654022
g	1.663859
h	1.673512
0.389	1.679697
i	-

Coef. disp. form. (pwr ser.)	
A0	2.61297958E+00
A1	-9.85563637E-03
A2	-1.06186576E-04
A3	2.54765452E-02
A4	3.92630585E-04
A5	1.21161036E-04
A6	-1.21702106E-05
A7	9.86930857E-07
A8	0.00000000E+00

Partial dispersion	
F-C	0.018520
F'-C'	0.018789
C-t	0.013279
C-A'	0.005911
d-C	0.005415
e-C	0.009796
g-d	0.024059
g-F	0.010954
h-g	0.009653
i-g	-
C'-t	0.014127
e-C'	0.008948
F'-e	0.009841
i-F'	-

Relative partial dispersion	
C-t/F-C	0.7170
C-A'/F-C	0.3192
d-C/F-C	0.2924
e-C/F-C	0.5289
g-d/F-C	1.2991
g-F/F-C	0.5915
h-g/F-C	0.5212
i-g/F-C	-
C'-t/F'-C'	0.7519
e-C'/F'-C'	0.4762
F'-e/F'-C'	0.5238
i-F'/F'-C'	-

Deviation of relative partial disp.	
ΔPdC	-0.0004
ΔPgF	0.0051

Internal CC (80%/5%)	
383/355	
Color Code (80%/5%)	
395/355	
CCI	
B	0.00
G	1.26
R	1.28

Thermal properties	
CTE(-30,70) [1E-7/°C]	79
CTE(100,300) [1E-7/°C]	97
Tg [°C]	584
At [°C]	624
StP [°C]	528
AP [°C]	565
SP [°C]	704
Ht condct. [W/m·K]	1.030
Sp. heat [kJ/kg·K]	0.722
Ht diffus. [1E-6 m2/sec]	0.518

Chemical properties [class]	
Acid res. (surface)	1
Alkaline detergent res.	1
Climate resistance	1
Water res. (powder)	1
Acid res. (powder)	1

Mechanical properties	
Knoop hardness	495 (5)
Abrasion hardness	122
Young's mod. [GPa]	78.8
Shear mod. [GPa]	31.8
Poisson's ratio	0.238
Stress optical coef. [1E-5 nm/cm/Pa]	2.80

Internal trans. (10mm)	
λ [nm]	τ
280	-
290	-
300	-
310	-
320	-
330	-
340	-
350	-
360	0.13
370	0.45
380	0.74
390	0.89
400	0.944
420	0.976
440	0.983
460	0.987
480	0.990
500	0.993
550	0.997
600	0.998
650	0.997
700	0.998
800	0.997
900	0.996
1000	0.997
1200	0.998
1400	0.993
1600	0.988
1800	0.967
2000	0.947
2200	0.88
2400	0.85

Specific gravity	
2.76	

Relative $\Delta n / \Delta T$ [1E-6/°C]																
Temp. [°C]	1.083	t	s	A'	r	C	C'	He-Ne	d	e	F	F'	g	h	0.389	
80 to 90 (ref.)	1.4	1.5	1.7	1.9	2.1	2.4	2.4	2.5	2.8	3.2	4.0	4.1	5.3	6.5	7.4	
60 to 80 (ref.)	1.3	1.4	1.6	1.8	2.0	2.2	2.3	2.4	2.6	3.0	3.8	3.9	5.0	6.3	7.1	
40 to 60	1.2	1.3	1.5	1.7	1.9	2.1	2.1	2.2	2.5	2.8	3.6	3.7	4.8	5.9	6.7	
20 to 40	1.2	1.2	1.4	1.6	1.8	2.0	2.0	2.1	2.3	2.7	3.4	3.5	4.5	5.6	6.4	
0 to 20	1.1	1.1	1.3	1.5	1.7	1.9	1.9	2.0	2.2	2.6	3.3	3.4	4.3	5.4	6.1	
-20 to 0	1.1	1.2	1.3	1.5	1.7	1.9	1.9	2.0	2.2	2.5	3.2	3.3	4.2	5.2	5.9	
-40 to -20	1.2	1.2	1.4	1.5	1.7	1.9	1.9	2.0	2.2	2.5	3.1	3.2	4.1	5.0	5.7	
-60 to -40 (ref.)	1.4	1.4	1.5	1.7	1.8	2.0	2.1	2.1	2.3	2.6	3.2	3.3	4.1	5.0	5.6	
-70 to -60 (ref.)	1.6	1.6	1.7	1.9	2.0	2.2	2.2	2.3	2.5	2.7	3.3	3.4	4.2	5.0	5.6	

Absolute $\Delta n / \Delta T$ [1E-6/°C]																
Temp. [°C]	1.083	t	s	A'	r	C	C'	He-Ne	d	e	F	F'	g	h	0.389	
80 to 90	0.4	0.5	0.7	0.9	1.1	1.3	1.4	1.5	1.8	2.1	3.0	3.1	4.2	5.5	6.3	
60 to 80	0.3	0.3	0.5	0.7	0.9	1.1	1.2	1.2	1.5	1.9	2.7	2.8	3.9	5.1	5.9	
40 to 60	0.0	0.0	0.2	0.4	0.6	0.8	0.9	0.9	1.2	1.6	2.3	2.4	3.5	4.6	5.4	
20 to 40	-0.2	-0.2	0.0	0.2	0.3	0.5	0.6	0.7	0.9	1.2	2.0	2.1	3.1	4.1	4.9	
0 to 20	-0.5	-0.5	-0.3	-0.1	0.1	0.3	0.3	0.4	0.6	0.9	1.6	1.7	2.6	3.7	4.4	
-20 to 0	-0.7	-0.7	-0.5	-0.4	-0.2	0.0	0.0	0.1	0.3	0.6	1.2	1.3	2.2	3.2	3.9	
-40 to -20	-1.0	-1.0	-0.8	-0.6	-0.5	-0.3	-0.3	-0.2	0.0	0.3	0.9	1.0	1.8	2.7	3.3	
-60 to -40	-1.2	-1.2	-1.1	-0.9	-0.8	-0.6	-0.6	-0.5	-0.3	-0.1	0.5	0.6	1.4	2.2	2.8	
-70 to -60	-1.4	-1.4	-1.3	-1.1	-1.0	-0.8	-0.8	-0.7	-0.5	-0.3	0.2	0.3	1.1	1.9	2.4	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.16414550E-01
Q1	8.32585149E+01
P2	1.64966821E-02
Q2	5.83433442E-02
P3	3.33217429E-01
Q3	7.71106562E-03

Fitting error of disp. form. σ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.6	5.9
Frac. eq. (ref.)	1.3	7.3

Prod. Freq. (A to D)	D
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Similar glass type			
OHARA	S-TIM27	HOYA	E-FD7
CDGM	H-F51	SCHOTT	-

2022-7-1	StP, AP, SP
2019-4-1	Transmittance
2018-4-1	Prod. Freq.