

# J-SF8

$n_d = 1.688930$

$n_e = 1.694153$

$v_d = 31.16$

$v_e = 30.92$

Glass code (d)
689312
Glass code (e)
694309

Spectral l.	Refractive idx
2.058	1.64983
1.970	1.65119
1.530	1.65778
1.129	1.66454
1.064	1.66592
t	1.66710
s	1.67198
A'	1.675565
r	1.678988
C	1.682509
C'	1.683512
He-Ne	1.684454
D	1.688738
d	1.688930
e	1.694153
F	1.704616
F'	1.705961
g	1.717865
h	1.729635
0.389	1.737225
i	-

Coef. disp. form. (pwr ser.)	
A0	2.76136798E+00
A1	-1.08932344E-02
A2	0.00000000E+00
A3	2.79459967E-02
A4	2.32580023E-03
A5	-4.32657789E-04
A6	9.28149250E-05
A7	-9.03546717E-06
A8	4.01729395E-07

Partial dispersion	
F-C	0.022107
F'-C'	0.022449
C-t	0.015408
C-A'	0.006944
d-C	0.006421
e-C	0.011644
g-d	0.028935
g-F	0.013249
h-g	0.011770
i-g	-
C'-t	0.016411
e-C'	0.010641
F'-e	0.011808
i-F'	-

Relative partial dispersion	
C-t/F-C	0.6970
C-A'/F-C	0.3141
d-C/F-C	0.2905
e-C/F-C	0.5267
g-d/F-C	1.3089
g-F/F-C	0.5993
h-g/F-C	0.5324
i-g/F-C	-
C'-t/F'-C'	0.7310
e-C'/F'-C'	0.4740
F'-e/F'-C'	0.5260
i-F'/F'-C'	-

Deviation of relative partial disp.	
$\Delta PdC$	-0.0008
$\Delta PgF$	0.0072

Internal CC (80%/5%)	
390/357	

Color Code (80%/5%)	
405/360	

CCI	
B	0.00
G	1.78
R	1.81

Thermal properties	
CTE(-30,70) [1E-7/°C]	92
CTE(100,300) [1E-7/°C]	116
Tg [°C]	544
At [°C]	582
Ht condct. [W/m·K]	1.083
Sp. heat [kJ/kg·K]	0.746
Ht diffus. [1E-6 m2/sec]	0.494

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	492 (5)
Abrasion hardness	180
Young's mod. [GPa]	86.4
Shear mod. [GPa]	34.5
Poisson's ratio	0.252
Stress optical coef. [1E-5 nm/cm/Pa]	2.68

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	0.00
290	0.00
300	0.00
310	0.00
320	0.00
330	0.00
340	0.00
350	0.00
360	0.09
370	0.37
380	0.67
390	0.83
400	0.910
420	0.963
440	0.976
460	0.982
480	0.987
500	0.990
550	0.996
600	0.997
650	0.996
700	0.997
800	0.996
900	0.996
1000	0.996
1200	0.997
1400	0.994
1600	0.987
1800	0.967
2000	0.946
2200	0.900
2400	0.85

Specific gravity	
2.93	

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.)	-0.1	-0.1	0.1	0.4	0.6	0.9	1.0	1.1	1.4	1.9	2.9	3.0	4.4	6.1	7.3	
60 to 80 (ref.)	-0.2	-0.2	0.1	0.3	0.6	0.8	0.9	1.0	1.3	1.8	2.7	2.9	4.2	5.8	7.0	
40 to 60	-0.3	-0.2	0.0	0.2	0.4	0.7	0.8	0.8	1.2	1.6	2.5	2.7	3.9	5.4	6.5	
20 to 40	-0.3	-0.3	-0.1	0.1	0.4	0.6	0.7	0.8	1.1	1.5	2.4	2.5	3.7	5.1	6.1	
0 to 20	-0.3	-0.3	-0.1	0.1	0.3	0.6	0.6	0.7	1.0	1.4	2.2	2.4	3.5	4.8	5.8	
-20 to 0	-0.3	-0.2	-0.1	0.1	0.4	0.6	0.6	0.7	1.0	1.4	2.2	2.3	3.4	4.6	5.5	
-40 to -20	-0.2	-0.1	0.0	0.2	0.4	0.7	0.7	0.8	1.1	1.4	2.2	2.3	3.3	4.5	5.3	
-60 to -40 (ref.)	0.0	0.1	0.2	0.4	0.6	0.8	0.9	0.9	1.2	1.5	2.3	2.3	3.3	4.4	5.2	
-70 to -60 (ref.)	0.3	0.3	0.5	0.6	0.8	1.0	1.1	1.1	1.4	1.7	2.4	2.5	3.4	4.4	5.2	

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	-1.2	-1.1	-0.9	-0.6	-0.4	-0.1	0.0	0.0	0.4	0.8	1.8	2.0	3.3	5.0	6.2	
60 to 80	-1.3	-1.3	-1.1	-0.8	-0.6	-0.3	-0.2	-0.2	0.2	0.6	1.6	1.7	3.0	4.6	5.7	
40 to 60	-1.5	-1.5	-1.3	-1.1	-0.8	-0.6	-0.5	-0.4	-0.1	0.3	1.2	1.4	2.6	4.1	5.2	
20 to 40	-1.7	-1.7	-1.5	-1.3	-1.1	-0.8	-0.8	-0.7	-0.4	0.0	0.9	1.0	2.2	3.6	4.6	
0 to 20	-2.0	-1.9	-1.7	-1.5	-1.3	-1.1	-1.0	-1.0	-0.7	-0.3	0.5	0.6	1.8	3.1	4.0	
-20 to 0	-2.2	-2.2	-2.0	-1.8	-1.6	-1.4	-1.3	-1.2	-0.9	-0.6	0.2	0.3	1.3	2.6	3.5	
-40 to -20	-2.4	-2.4	-2.2	-2.0	-1.8	-1.6	-1.6	-1.5	-1.2	-0.9	-0.2	-0.1	0.9	2.1	2.9	
-60 to -40	-2.6	-2.6	-2.4	-2.3	-2.1	-1.9	-1.8	-1.8	-1.5	-1.2	-0.5	-0.4	0.5	1.6	2.3	
-70 to -60	-2.8	-2.8	-2.6	-2.4	-2.3	-2.1	-2.0	-2.0	-1.7	-1.4	-0.8	-0.7	0.2	1.2	1.9	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.02971181E-01
Q1	7.75985325E+01
P2	1.94900806E-02
Q2	5.94772898E-02
P3	3.50160674E-01
Q3	8.19360173E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.9	5.3
Frac. eq. (ref.)	1.4	10.5
Prod. Freq. (A to D)	C	

Similar glass type			
OHARA	S-TIM28	HOYA	E-FD8
CDGM	H-ZF10	SCHOTT	N-SF8

2019-4-1	Transmittance
2015-4-1	Color Code, Prod. Freq
2009-9-1	1st edition