

# J-SF10

$n_d = 1.728250$

$n_e = 1.734304$

$v_d = 28.38$

$v_e = 28.15$

Glass code (d)
728284
Glass code (e)
734282

Spectral l.	Refractive idx
2.058	1.68423
1.970	1.68570
1.530	1.69287
1.129	1.70036
1.064	1.70191
t	1.70324
s	1.70878
A'	1.712868
r	1.716791
C	1.720838
C'	1.721994
He-Ne	1.723080
D	1.728028
d	1.728250
e	1.734304
F	1.746500
F'	1.748075
g	1.762074
h	1.776040
0.389	1.785117
i	-

Coef. disp. form. (pwr ser.)	
A0	2.87916509E+00
A1	-1.19049122E-02
A2	0.00000000E+00
A3	3.28054585E-02
A4	2.70047713E-03
A5	-4.76826023E-04
A6	1.07927203E-04
A7	-1.07672748E-05
A8	5.00986227E-07

Partial dispersion	
F-C	0.025662
F'-C'	0.026081
C-t	0.017595
C-A'	0.007970
d-C	0.007412
e-C	0.013466
g-d	0.033824
g-F	0.015574
h-g	0.013966
i-g	-
C'-t	0.018751
e-C'	0.012310
F'-e	0.013771
i-F'	-

Relative partial dispersion	
C-t/F-C	0.6856
C-A'/F-C	0.3106
d-C/F-C	0.2888
e-C/F-C	0.5247
g-d/F-C	1.3181
g-F/F-C	0.6069
h-g/F-C	0.5442
i-g/F-C	-
C'-t/F'-C'	0.7190
e-C'/F'-C'	0.4720
F'-e/F'-C'	0.5280
i-F'/F'-C'	-

Deviation of relative partial disp.	
$\Delta PdC$	-0.0012
$\Delta PgF$	0.0101

Internal CC (80%/5%)	
392/362	

Color Code (80%/5%)	
415/365	

CCI	
B	0.00
G	2.38
R	2.48

Thermal properties	
CTE(-30,70) [1E-7/°C]	89
CTE(100,300) [1E-7/°C]	105
Tg [°C]	600
At [°C]	637
Ht condct. [W/m·K]	1.092
Sp. heat [kJ/kg·K]	0.722
Ht diffus. [1E-6 m2/sec]	0.493

Chemical properties [class]	
Acid res. (surface)	1
Alkaline detergent res.	1
Climate resistance	1
Water res. (powder)	2
Acid res. (powder)	1

Mechanical properties	
Knoop hardness	513 (5)
Abrasion hardness	159
Young's mod. [GPa]	88.6
Shear mod. [GPa]	35.4
Poisson's ratio	0.251
Stress optical coef. [1E-5 nm/cm/Pa]	2.79

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	0.02
370	0.24
380	0.57
390	0.78
400	0.88
420	0.946
440	0.968
460	0.978
480	0.983
500	0.987
550	0.995
600	0.996
650	0.996
700	0.997
800	0.995
900	0.993
1000	0.994
1200	0.995
1400	0.995
1600	0.988
1800	0.972
2000	0.961
2200	0.927
2400	0.89

Specific gravity	
3.06	

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.)	0.6	0.7	0.9	1.2	1.5	1.8	1.9	2.0	2.4	3.0	4.2	4.3	6.1	8.1	9.7
60 to 80 (ref.)	0.5	0.6	0.9	1.1	1.4	1.7	1.8	1.9	2.3	2.8	4.0	4.1	5.8	7.8	9.2
40 to 60	0.4	0.5	0.7	1.0	1.2	1.5	1.6	1.7	2.1	2.6	3.7	3.8	5.4	7.3	8.7
20 to 40	0.3	0.4	0.6	0.9	1.1	1.4	1.5	1.6	1.9	2.4	3.5	3.6	5.1	6.8	8.1
0 to 20	0.3	0.3	0.6	0.8	1.1	1.3	1.4	1.5	1.8	2.3	3.3	3.4	4.8	6.4	7.7
-20 to 0	0.3	0.4	0.6	0.8	1.0	1.3	1.3	1.4	1.8	2.2	3.1	3.2	4.6	6.1	7.2
-40 to -20	0.4	0.4	0.7	0.9	1.1	1.3	1.4	1.4	1.8	2.2	3.0	3.2	4.4	5.8	6.9
-60 to -40 (ref.)	0.6	0.6	0.8	1.0	1.2	1.4	1.5	1.6	1.9	2.2	3.1	3.2	4.3	5.7	6.6
-70 to -60 (ref.)	0.8	0.8	1.0	1.2	1.4	1.6	1.7	1.7	2.0	2.4	3.2	3.3	4.4	5.6	6.5

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	-0.4	-0.1	0.2	0.5	0.8	0.8	0.9	1.3	1.9	3.1	3.2	4.9	7.0	8.6
60 to 80	-0.6	-0.6	-0.3	0.0	0.2	0.5	0.6	0.7	1.1	1.6	2.8	2.9	4.6	6.5	8.0
40 to 60	-0.9	-0.8	-0.6	-0.3	-0.1	0.2	0.3	0.4	0.8	1.2	2.3	2.5	4.0	5.9	7.3
20 to 40	-1.1	-1.1	-0.8	-0.6	-0.4	-0.1	0.0	0.1	0.4	0.9	1.9	2.1	3.5	5.3	6.6
0 to 20	-1.4	-1.3	-1.1	-0.9	-0.7	-0.4	-0.3	-0.3	0.1	0.5	1.5	1.6	3.0	4.6	5.8
-20 to 0	-1.6	-1.6	-1.4	-1.2	-1.0	-0.7	-0.6	-0.6	-0.3	0.2	1.1	1.2	2.5	4.0	5.1
-40 to -20	-1.9	-1.9	-1.6	-1.5	-1.2	-1.0	-1.0	-0.9	-0.6	-0.2	0.7	0.8	2.0	3.4	4.4
-60 to -40	-2.1	-2.1	-1.9	-1.7	-1.5	-1.3	-1.3	-1.2	-0.9	-0.6	0.2	0.3	1.4	2.7	3.7
-70 to -60	-2.3	-2.3	-2.1	-1.9	-1.8	-1.6	-1.5	-1.5	-1.2	-0.8	-0.1	0.0	1.1	2.3	3.1

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.05750615E-01
Q1	7.65392188E+01
P2	2.21567515E-02
Q2	6.12519187E-02
P3	3.62700744E-01
Q3	8.59469460E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.9	5.3
Frac. eq. (ref.)	2.0	12.4
Prod. Freq. (A to D)	C	

Similar glass type			
OHARA	S-TIH10	HOYA	E-FD10
CDGM	H-ZF4A	SCHOTT	N-SF10

2019-4-1	Transmittance
2016-4-1	Similar glass type
2015-4-1	Color Code