

# J-F3

$n_d = 1.612930$

$n_e = 1.616857$

$v_d = 36.95$

$v_e = 36.68$

Glass code (d)	613370
Glass code (e)	617367

Spectral l.	Refractive idx
2.058	1.57955
1.970	1.58095
1.530	1.58751
1.129	1.59369
1.064	1.59487
t	1.59587
s	1.59986
A'	1.602690
r	1.605350
C	1.608054
C'	1.608820
He-Ne	1.609538
D	1.612785
d	1.612930
e	1.616857
F	1.624644
F'	1.625638
g	1.634371
h	1.642901
0.389	1.648344
i	-

Coef. disp. form. (pwr ser.)	
A0	2.53547360E+00
A1	-1.04298990E-02
A2	-9.00763853E-05
A3	2.22719327E-02
A4	4.43442601E-04
A5	7.40581279E-05
A6	-6.90525545E-06
A7	6.52621989E-07
A8	0.00000000E+00

Partial dispersion	
F-C	0.016590
F'-C'	0.016818
C-t	0.012185
C-A'	0.005364
d-C	0.004876
e-C	0.008803
g-d	0.021441
g-F	0.009727
h-g	0.008530
i-g	-
C'-t	0.012951
e-C'	0.008037
F'-e	0.008781
i-F'	-

Relative partial dispersion	
C-t/F-C	0.7345
C-A'/F-C	0.3233
d-C/F-C	0.2939
e-C/F-C	0.5306
g-d/F-C	1.2924
g-F/F-C	0.5863
h-g/F-C	0.5142
i-g/F-C	-
C'-t/F'-C'	0.7701
e-C'/F'-C'	0.4779
F'-e/F'-C'	0.5221
i-F'/F'-C'	-

Deviation of relative partial disp.	
$\Delta PdC$	0.0000
$\Delta PgF$	0.0040

Internal CC (80%/5%)	
384/354	

Color Code (80%/5%)	
395/355	

CCI	
B	0.00
G	1.39
R	1.40

Thermal properties	
CTE(-30,70) [1E-7/°C]	74
CTE(100,300) [1E-7/°C]	89
Tg [°C]	588
At [°C]	631
Ht condct. [W/m·K]	1.064
Sp. heat [kJ/kg·K]	0.748
Ht diffus. [1E-6 m2/sec]	0.539

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	509 (5)
Abrasion hardness	100
Young's mod. [GPa]	80.6
Shear mod. [GPa]	33.0
Poisson's ratio	0.221
Stress optical coef. [1E-5 nm/cm/Pa]	3.13

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	0.01
360	0.15
370	0.46
380	0.73
390	0.87
400	0.933
420	0.971
440	0.980
460	0.984
480	0.987
500	0.991
550	0.996
600	0.996
650	0.995
700	0.997
800	0.997
900	0.996
1000	0.996
1200	0.996
1400	0.987
1600	0.989
1800	0.978
2000	0.967
2200	0.912
2400	0.89

Specific gravity	
2.64	

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.)	2.8	2.8	3.0	3.2	3.4	3.6	3.7	3.7	4.0	4.4	5.1	5.2	6.2	7.3	8.1	
60 to 80 (ref.)	2.7	2.7	2.9	3.1	3.3	3.4	3.5	3.6	3.8	4.2	4.9	5.0	6.0	7.0	7.8	
40 to 60	2.5	2.6	2.8	2.9	3.1	3.3	3.3	3.4	3.6	4.0	4.7	4.8	5.7	6.7	7.4	
20 to 40	2.4	2.4	2.6	2.8	2.9	3.1	3.2	3.2	3.4	3.8	4.4	4.5	5.4	6.4	7.1	
0 to 20	2.3	2.4	2.5	2.7	2.8	3.0	3.0	3.1	3.3	3.6	4.2	4.3	5.1	6.1	6.7	
-20 to 0	2.3	2.3	2.5	2.6	2.8	2.9	3.0	3.0	3.2	3.5	4.1	4.2	5.0	5.8	6.5	
-40 to -20	2.3	2.4	2.5	2.6	2.8	2.9	2.9	3.0	3.2	3.5	4.0	4.1	4.8	5.7	6.3	
-60 to -40 (ref.)	2.4	2.5	2.6	2.7	2.8	3.0	3.0	3.1	3.3	3.5	4.1	4.1	4.8	5.6	6.2	
-70 to -60 (ref.)	2.6	2.6	2.8	2.9	3.0	3.1	3.2	3.2	3.4	3.6	4.1	4.2	4.9	5.6	6.2	

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	1.8	1.9	2.1	2.2	2.4	2.6	2.7	2.7	3.0	3.3	4.1	4.2	5.2	6.3	7.1	
60 to 80	1.6	1.6	1.8	2.0	2.2	2.4	2.4	2.5	2.7	3.1	3.8	3.9	4.8	5.9	6.7	
40 to 60	1.3	1.4	1.5	1.7	1.9	2.0	2.1	2.1	2.4	2.7	3.4	3.5	4.4	5.4	6.1	
20 to 40	1.0	1.1	1.2	1.4	1.5	1.7	1.8	1.8	2.0	2.3	3.0	3.1	3.9	4.9	5.6	
0 to 20	0.7	0.8	0.9	1.1	1.2	1.4	1.4	1.5	1.7	2.0	2.6	2.7	3.5	4.4	5.1	
-20 to 0	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.1	1.4	1.6	2.2	2.3	3.0	3.9	4.5	
-40 to -20	0.2	0.2	0.3	0.5	0.6	0.7	0.8	0.8	1.0	1.3	1.8	1.9	2.6	3.4	4.0	
-60 to -40	-0.1	-0.1	0.0	0.2	0.3	0.4	0.4	0.5	0.7	0.9	1.4	1.5	2.1	2.9	3.4	
-70 to -60	-0.3	-0.3	-0.2	-0.1	0.0	0.1	0.2	0.2	0.4	0.6	1.1	1.2	1.8	2.5	3.0	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.34356723E-01
Q1	8.86091303E+01
P2	1.55524745E-02
Q2	5.69109653E-02
P3	3.23009944E-01
Q3	7.25932793E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.6	3.5
Frac. eq. (ref.)	1.1	5.5

Prod. Freq. (A to D)	D
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Similar glass type			
OHARA	S-TIM3	HOYA	E-F3
CDGM	H-F2	SCHOTT	-

2019-4-1	Transmittance
2018-4-1	Prod. Freq.
2015-4-1	Color Code, Similar glass type