

# J-F1

$n_d = 1.625880$

$n_e = 1.630026$

$v_d = 35.72$

$v_e = 35.46$

Glass code (d)	626357
Glass code (e)	630355

Spectral l.	Refractive idx
2.058	1.59141
1.970	1.59282
1.530	1.59944
1.129	1.60574
1.064	1.60696
t	1.60800
s	1.61214
A'	1.615109
r	1.617899
C	1.620742
C'	1.621548
He-Ne	1.622305
D	1.625727
d	1.625880
e	1.630026
F	1.638263
F'	1.639316
g	1.648579
h	1.657647
0.389	1.663446
i	-

Coef. disp. form. (pwr ser.)	
A0	2.57291645E+00
A1	-1.04210510E-02
A2	-1.02025424E-04
A3	2.37163029E-02
A4	4.42698668E-04
A5	9.19547318E-05
A6	-8.93128864E-06
A7	7.90992496E-07
A8	0.00000000E+00

Partial dispersion	
F-C	0.017521
F'-C'	0.017768
C-t	0.012744
C-A'	0.005633
d-C	0.005138
e-C	0.009284
g-d	0.022699
g-F	0.010316
h-g	0.009068
i-g	-
C'-t	0.013550
e-C'	0.008478
F'-e	0.009290
i-F'	-

Relative partial dispersion	
C-t/F-C	0.7274
C-A'/F-C	0.3215
d-C/F-C	0.2932
e-C/F-C	0.5299
g-d/F-C	1.2955
g-F/F-C	0.5888
h-g/F-C	0.5176
i-g/F-C	-
C'-t/F'-C'	0.7626
e-C'/F'-C'	0.4771
F'-e/F'-C'	0.5229
i-F'/F'-C'	-

Deviation of relative partial disp.	
$\Delta PdC$	-0.0001
$\Delta PgF$	0.0044

Internal CC (80%/5%)	
383/355	

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

CCI	
B	0.00
G	1.05
R	1.08

Thermal properties	
CTE(-30,70) [1E-7/°C]	81
CTE(100,300) [1E-7/°C]	91
Tg [°C]	576
At [°C]	616
Ht condct. [W/m·K]	1.150
Sp. heat [kJ/kg·K]	0.767
Ht diffus. [1E-6 m2/sec]	0.557

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	489 (5)
Abrasion hardness	111
Young's mod. [GPa]	81.5
Shear mod. [GPa]	33.1
Poisson's ratio	0.231
Stress optical coef. [1E-5 nm/cm/Pa]	3.14

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	0.14
370	0.46
380	0.74
390	0.88
400	0.943
420	0.982
440	0.990
460	0.993
480	0.994
500	0.996
550	0.998
600	0.998
650	0.998
700	0.998
800	0.998
900	0.997
1000	0.998
1200	0.999
1400	0.989
1600	0.988
1800	0.968
2000	0.950
2200	0.87
2400	0.83

Specific gravity	
2.69	

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.)	2.7	2.8	3.0	3.2	3.4	3.7	3.7	3.8	4.1	4.5	5.3	5.4	6.5	7.7	8.6	
60 to 80 (ref.)	2.5	2.6	2.9	3.0	3.2	3.5	3.5	3.6	3.9	4.2	5.0	5.1	6.2	7.4	8.2	
40 to 60	2.3	2.4	2.6	2.8	3.0	3.2	3.3	3.3	3.6	3.9	4.7	4.8	5.8	6.9	7.7	
20 to 40	2.1	2.2	2.4	2.6	2.8	3.0	3.0	3.1	3.3	3.7	4.4	4.5	5.4	6.5	7.3	
0 to 20	1.9	2.0	2.2	2.4	2.6	2.8	2.8	2.9	3.1	3.4	4.1	4.2	5.1	6.1	6.8	
-20 to 0	1.8	1.9	2.1	2.3	2.4	2.6	2.7	2.7	2.9	3.2	3.9	3.9	4.8	5.8	6.5	
-40 to -20	1.8	1.9	2.1	2.2	2.4	2.5	2.6	2.6	2.8	3.1	3.7	3.8	4.6	5.5	6.2	
-60 to -40 (ref.)	1.9	1.9	2.1	2.2	2.4	2.5	2.6	2.6	2.8	3.1	3.6	3.7	4.4	5.3	6.0	
-70 to -60 (ref.)	2.0	2.0	2.2	2.3	2.5	2.6	2.7	2.7	2.9	3.1	3.7	3.7	4.4	5.3	5.9	

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	1.7	1.8	2.0	2.2	2.4	2.7	2.7	2.8	3.1	3.5	4.3	4.4	5.4	6.7	7.6	
60 to 80	1.4	1.5	1.8	2.0	2.1	2.4	2.4	2.5	2.8	3.1	3.9	4.0	5.0	6.2	7.1	
40 to 60	1.1	1.1	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	
20 to 40	0.7	0.8	1.0	1.2	1.4	1.5	1.6	1.7	1.9	2.2	2.9	3.0	3.9	5.0	5.8	
0 to 20	0.4	0.4	0.6	0.8	1.0	1.1	1.2	1.2	1.5	1.8	2.4	2.5	3.4	4.4	5.1	
-20 to 0	0.0	0.1	0.3	0.4	0.6	0.7	0.8	0.8	1.1	1.3	1.9	2.0	2.8	3.8	4.5	
-40 to -20	-0.4	-0.3	-0.1	0.0	0.2	0.3	0.4	0.4	0.6	0.9	1.5	1.5	2.3	3.2	3.9	
-60 to -40	-0.7	-0.7	-0.5	-0.4	-0.2	-0.1	0.0	0.0	0.2	0.4	1.0	1.0	1.8	2.6	3.2	
-70 to -60	-1.0	-0.9	-0.8	-0.6	-0.5	-0.4	-0.3	-0.3	-0.1	0.1	0.6	0.7	1.3	2.1	2.7	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.23165675E-01
Q1	8.24765904E+01
P2	1.63187357E-02
Q2	5.73814106E-02
P3	3.27670057E-01
Q3	7.43227866E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.5	3.1
Frac. eq. (ref.)	1.2	5.6

Prod. Freq. (A to D)	C
----------------------	---

Similar glass type			
OHARA	S-TIM1	HOYA	E-F1
CDGM	H-F13	SCHOTT	-

2019-4-1	Transmittance
2018-4-1	Prod. Freq.
2015-4-1	Color Code