

J-LAF7

$n_d = 1.749500$

$n_e = 1.754533$

$v_d = 35.25$

$v_e = 34.99$

Glass code (d)	750353
Glass code (e)	755350

Spectral l.	Refractive idx
2.058	1.70948
1.970	1.71102
1.530	1.71826
1.129	1.72539
1.064	1.72681
t	1.72801
s	1.73292
A'	1.736472
r	1.739834
C	1.743271
C'	1.744248
He-Ne	1.745164
D	1.749314
d	1.749500
e	1.754533
F	1.764535
F'	1.765812
g	1.777040
h	1.787997
0.389	1.794980
i	-

Coef. disp. form. (pwr ser.)	
A0	2.96739544E+00
A1	-1.18139418E-02
A2	-1.33628078E-04
A3	3.10749099E-02
A4	6.54571893E-04
A5	9.85567905E-05
A6	-8.83112540E-06
A7	8.38843732E-07
A8	0.00000000E+00

Partial dispersion	
F-C	0.021264
F'-C'	0.021564
C-t	0.015256
C-A'	0.006799
d-C	0.006229
e-C	0.011262
g-d	0.027540
g-F	0.012505
h-g	0.010957
i-g	-
C'-t	0.016234
e-C'	0.010285
F'-e	0.011279
i-F'	-

Relative partial dispersion	
C-t/F-C	0.7175
C-A'/F-C	0.3197
d-C/F-C	0.2929
e-C/F-C	0.5296
g-d/F-C	1.2951
g-F/F-C	0.5881
h-g/F-C	0.5153
i-g/F-C	-
C'-t/F'-C'	0.7528
e-C'/F'-C'	0.4770
F'-e/F'-C'	0.5230
i-F'/F'-C'	-

Deviation of relative partial disp.	
ΔPdC	-0.0002
ΔPgF	0.0029

Internal CC (80%/5%)	
393/355	

Color Code (80%/5%)	
420/355	

CCI	
B	0.00
G	2.62
R	2.64

Thermal properties	
CTE(-30,70) [1E-7/°C]	73
CTE(100,300) [1E-7/°C]	88
Tg [°C]	587
At [°C]	631
Ht condct. [W/m·K]	0.820
Sp. heat [kJ/kg·K]	0.552
Ht diffus. [1E-6 m2/sec]	0.411

Chemical properties [class]	
Acid res. (surface)	5
Alkaline detergent res.	2
Climate resistance	1
Water res. (powder)	2
Acid res. (powder)	4

Mechanical properties	
Knoop hardness	540 (5)
Abrasion hardness	149
Young's mod. [GPa]	91.5
Shear mod. [GPa]	35.5
Poisson's ratio	0.288
Stress optical coef. [1E-5 nm/cm/Pa]	2.64

Internal trans. (10mm)	
λ [nm]	τ
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	0.13
370	0.39
380	0.62
390	0.77
400	0.86
420	0.935
440	0.962
460	0.975
480	0.983
500	0.988
550	0.995
600	0.995
650	0.995
700	0.996
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.997
1600	0.995
1800	0.985
2000	0.967
2200	0.917
2400	0.78

Specific gravity	
3.62	

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.)	2.2	2.3	2.6	2.9	3.2	3.4	3.5	3.6	3.9	4.4	5.4	5.5	6.7	8.2	9.2	
60 to 80 (ref.)	2.1	2.2	2.5	2.8	3.0	3.3	3.3	3.4	3.8	4.2	5.1	5.3	6.5	7.8	8.8	
40 to 60	2.0	2.0	2.3	2.6	2.8	3.1	3.1	3.2	3.5	4.0	4.8	5.0	6.1	7.4	8.3	
20 to 40	1.8	1.9	2.2	2.4	2.7	2.9	3.0	3.0	3.4	3.7	4.6	4.7	5.8	7.0	7.9	
0 to 20	1.8	1.8	2.1	2.3	2.6	2.8	2.8	2.9	3.2	3.6	4.4	4.5	5.5	6.7	7.5	
-20 to 0	1.7	1.8	2.1	2.3	2.5	2.7	2.8	2.8	3.1	3.5	4.2	4.3	5.3	6.4	7.1	
-40 to -20	1.8	1.9	2.1	2.3	2.5	2.7	2.8	2.8	3.1	3.4	4.1	4.2	5.1	6.2	6.9	
-60 to -40 (ref.)	1.9	2.0	2.2	2.4	2.6	2.8	2.9	2.9	3.2	3.5	4.2	4.3	5.1	6.0	6.7	
-70 to -60 (ref.)	2.1	2.2	2.4	2.6	2.8	3.0	3.0	3.1	3.3	3.6	4.3	4.4	5.2	6.0	6.7	

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	1.3	1.6	1.8	2.1	2.3	2.4	2.5	2.8	3.3	4.2	4.4	5.6	7.0	8.0	
60 to 80	0.9	1.0	1.3	1.6	1.8	2.1	2.2	2.2	2.6	3.0	3.9	4.0	5.2	6.6	7.5	
40 to 60	0.6	0.7	1.0	1.3	1.5	1.7	1.8	1.9	2.2	2.6	3.5	3.6	4.7	6.0	6.9	
20 to 40	0.3	0.4	0.7	0.9	1.2	1.4	1.5	1.5	1.8	2.2	3.0	3.2	4.2	5.4	6.3	
0 to 20	0.1	0.1	0.4	0.6	0.8	1.0	1.1	1.2	1.5	1.8	2.6	2.7	3.7	4.8	5.6	
-20 to 0	-0.2	-0.2	0.1	0.3	0.5	0.7	0.8	0.8	1.1	1.4	2.2	2.3	3.2	4.3	5.0	
-40 to -20	-0.5	-0.5	-0.2	0.0	0.2	0.4	0.4	0.5	0.7	1.0	1.7	1.8	2.7	3.7	4.4	
-60 to -40	-0.8	-0.8	-0.5	-0.4	-0.2	0.0	0.1	0.1	0.4	0.7	1.3	1.4	2.2	3.1	3.7	
-70 to -60	-1.0	-1.0	-0.8	-0.6	-0.4	-0.3	-0.2	-0.2	0.1	0.4	1.0	1.0	1.8	2.7	3.3	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.05222300E-01
Q1	7.33807652E+01
P2	1.94995885E-02
Q2	5.42288787E-02
P3	3.76585353E-01
Q3	7.16474338E-03

Fitting error of disp. form. σ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.6	7.0
Frac. eq. (ref.)	1.2	8.6

Prod. Freq. (A to D)	C
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Similar glass type			
OHARA	S-LAM7,S-NBH51	HOYA	E-LAF7
CDGM	H-LaF4	SCHOTT	N-LAF7

2019-4-1	Transmittance
2018-4-1	Prod. Freq.
2016-4-1	Similar glass type