

# J-LAK09

$n_d = 1.734000$

$n_e = 1.737395$

$v_d = 51.51$

$v_e = 51.28$

Glass code (d)
734515
Glass code (e)
737513

Spectral l.	Refractive idx
2.058	1.69915
1.970	1.70092
1.530	1.70893
1.129	1.71586
1.064	1.71710
t	1.71813
s	1.72207
A'	1.724765
r	1.727227
C	1.729680
C'	1.730367
He-Ne	1.731008
D	1.733873
d	1.734000
e	1.737395
F	1.743930
F'	1.744746
g	1.751739
h	1.758257
0.389	1.762247
i	1.769439

Coef. disp. form. (pwr ser.)	
A0	2.94471329E+00
A1	-1.39489672E-02
A2	-2.08989528E-04
A3	2.21246396E-02
A4	2.96283761E-04
A5	1.28986233E-05
A6	-4.34524857E-08
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.014250
F'-C'	0.014379
C-t	0.011553
C-A'	0.004915
d-C	0.004320
e-C	0.007715
g-d	0.017739
g-F	0.007809
h-g	0.006518
i-g	0.017700
C'-t	0.012240
e-C'	0.007028
F'-e	0.007351
i-F'	0.024693

Relative partial dispersion	
C-t/F-C	0.8107
C-A'/F-C	0.3449
d-C/F-C	0.3032
e-C/F-C	0.5414
g-d/F-C	1.2448
g-F/F-C	0.5480
h-g/F-C	0.4574
i-g/F-C	1.2421
C'-t/F'-C'	0.8512
e-C'/F'-C'	0.4888
F'-e/F'-C'	0.5112
i-F'/F'-C'	1.7173

Deviation of relative partial disp.	
$\Delta PdC$	0.0027
$\Delta PgF$	-0.0099

Internal CC (80%/5%)	
346/287	

Color Code (80%/5%)	
370/290	

CCI	
B	0.00
G	0.34
R	0.36

Thermal properties	
CTE(-30,70) [1E-7/°C]	49
CTE(100,300) [1E-7/°C]	63
Tg [°C]	640
At [°C]	670
Ht condct. [W/m·K]	0.851
Sp. heat [kJ/kg·K]	0.546
Ht diffus. [1E-6 m2/sec]	0.389

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

Mechanical properties	
Knoop hardness	666 (7)
Abrasion hardness	70
Young's mod. [GPa]	97.7
Shear mod. [GPa]	37.7
Poisson's ratio	0.297
Stress optical coef. [1E-5 nm/cm/Pa]	2.23

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	0.03
290	0.07
300	0.19
310	0.35
320	0.50
330	0.64
340	0.76
350	0.84
360	0.900
370	0.938
380	0.961
390	0.974
400	0.981
420	0.989
440	0.992
460	0.994
480	0.995
500	0.997
550	0.997
600	0.998
650	0.998
700	0.998
800	0.997
900	0.996
1000	0.997
1200	0.998
1400	0.993
1600	0.989
1800	0.975
2000	0.949
2200	0.86
2400	0.60

Specific gravity	
4	

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.)	5.7	5.7	5.9	6.1	6.2	6.4	6.4	6.5	6.7	6.9	7.4	7.4	8.0	8.5	8.8	
60 to 80 (ref.)	5.6	5.6	5.8	5.9	6.1	6.2	6.2	6.3	6.5	6.7	7.2	7.3	7.8	8.3	8.6	
40 to 60	5.4	5.4	5.6	5.7	5.9	6.0	6.1	6.1	6.3	6.5	7.0	7.0	7.5	8.0	8.3	
20 to 40	5.3	5.3	5.5	5.6	5.7	5.9	5.9	5.9	6.1	6.3	6.8	6.8	7.3	7.8	8.1	
0 to 20	5.2	5.2	5.4	5.5	5.6	5.7	5.8	5.8	6.0	6.2	6.6	6.7	7.1	7.6	7.9	
-20 to 0	5.1	5.2	5.3	5.4	5.5	5.7	5.7	5.8	5.9	6.1	6.5	6.6	7.0	7.5	7.7	
-40 to -20	5.1	5.1	5.3	5.4	5.6	5.7	5.7	5.8	5.9	6.1	6.5	6.6	7.0	7.4	7.7	
-60 to -40 (ref.)	5.3	5.3	5.4	5.6	5.7	5.8	5.8	5.9	6.0	6.2	6.6	6.6	7.0	7.4	7.7	
-70 to -60 (ref.)	5.4	5.5	5.6	5.7	5.8	5.9	6.0	6.0	6.2	6.4	6.7	6.8	7.2	7.5	7.8	

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	4.6	4.7	4.9	5.0	5.1	5.3	5.3	5.4	5.6	5.8	6.3	6.3	6.9	7.4	7.7	
60 to 80	4.4	4.4	4.6	4.8	4.9	5.0	5.1	5.1	5.3	5.5	6.0	6.1	6.6	7.1	7.4	
40 to 60	4.1	4.1	4.3	4.4	4.6	4.7	4.7	4.8	5.0	5.2	5.6	5.7	6.2	6.6	7.0	
20 to 40	3.8	3.8	4.0	4.1	4.2	4.4	4.4	4.4	4.6	4.8	5.2	5.3	5.8	6.2	6.5	
0 to 20	3.5	3.5	3.7	3.8	3.9	4.0	4.1	4.1	4.3	4.5	4.9	4.9	5.4	5.8	6.1	
-20 to 0	3.2	3.2	3.3	3.4	3.6	3.7	3.7	3.8	3.9	4.1	4.5	4.5	5.0	5.4	5.7	
-40 to -20	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.4	3.6	3.8	4.1	4.2	4.6	5.0	5.2	
-60 to -40	2.5	2.6	2.7	2.8	2.9	3.0	3.0	3.1	3.2	3.4	3.7	3.8	4.2	4.5	4.8	
-70 to -60	2.3	2.3	2.4	2.5	2.6	2.8	2.8	2.8	3.0	3.1	3.5	3.5	3.9	4.2	4.5	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.14720056E-01
Q1	6.62725947E+01
P2	3.41846070E-02
Q2	2.44930862E-02
P3	3.59153591E-01
Q3	5.17125611E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.5	5.1
Frac. eq. (ref.)	0.7	5.4

Prod. Freq. (A to D)	C
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Similar glass type			
OHARA	S-LAL59	HOYA	TAC4
CDGM	H-LaK54	SCHOTT	-

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