

# J-LAK10

 $n_d = 1.719990$ 
 $n_e = 1.723401$ 
 $v_d = 50.27$ 
 $v_e = 50.01$ 

Glass code (d)
720503
Glass code (e)
723500

Spectral l.	Refractive idx
2.058	1.68749
1.970	1.68901
1.530	1.69598
1.129	1.70225
1.064	1.70341
t	1.70438
s	1.70818
A'	1.710805
r	1.713235
C	1.715672
C'	1.716357
He-Ne	1.716996
D	1.719863
d	1.719990
e	1.723401
F	1.729995
F'	1.730821
g	1.737911
h	1.744540
0.389	1.748610
i	1.755962

Coef. disp. form. (pwr ser.)	
A0	2.89571408E+00
A1	-1.20013315E-02
A2	-1.36916169E-04
A3	2.19522159E-02
A4	3.57973143E-04
A5	8.26304425E-06
A6	2.73881720E-07
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.014323
F'-C'	0.014464
C-t	0.011287
C-A'	0.004867
d-C	0.004318
e-C	0.007729
g-d	0.017921
g-F	0.007916
h-g	0.006629
i-g	0.018051
C'-t	0.011972
e-C'	0.007044
F'-e	0.007420
i-F'	0.025141

Relative partial dispersion	
C-t/F-C	0.7880
C-A'/F-C	0.3398
d-C/F-C	0.3015
e-C/F-C	0.5396
g-d/F-C	1.2512
g-F/F-C	0.5527
h-g/F-C	0.4628
i-g/F-C	1.2603
C'-t/F'-C'	0.8277
e-C'/F'-C'	0.4870
F'-e/F'-C'	0.5130
i-F'/F'-C'	1.7382

Deviation of relative partial disp.	
$\Delta PdC$	0.0016
$\Delta PgF$	-0.0073

Internal CC (80%/5%)	
355/315	
Color Code (80%/5%)	
375/305	
CCI	
B	0.00
G	0.43
R	0.41

Thermal properties	
CTE(-30,70) [1E-7/°C]	65
CTE(100,300) [1E-7/°C]	82
Tg [°C]	629
At [°C]	664
StP [°C]	586
AP [°C]	617
SP [°C]	726
Ht condct. [W/m·K]	0.870
Sp. heat [kJ/kg·K]	0.560
Ht diffus. [1E-6 m2/sec]	0.415

Chemical properties [class]	
Acid res. (surface)	5
Alkaline detergent res.	3
Climate resistance	1
Water res. (powder)	2
Acid res. (powder)	4

Mechanical properties	
Knoop hardness	629 (6)
Abrasion hardness	100
Young's mod. [GPa]	106.0
Shear mod. [GPa]	40.9
Poisson's ratio	0.295
Stress optical coef. [1E-5 nm/cm/Pa]	2.05

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	-
290	-
300	0.03
310	0.11
320	0.26
330	0.45
340	0.62
350	0.75
360	0.85
370	0.911
380	0.947
390	0.967
400	0.978
420	0.988
440	0.992
460	0.994
480	0.997
500	0.998
550	0.999
600	0.998
650	0.998
700	0.998
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.999
1600	0.992
1800	0.979
2000	0.962
2200	0.901
2400	0.72

Specific gravity
3.74

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.)	3.6	3.7	3.9	4.0	4.2	4.3	4.4	4.4	4.6	4.9	5.5	5.5	6.1	6.7	7.2	
60 to 80 (ref.)	3.6	3.6	3.8	3.9	4.1	4.2	4.3	4.3	4.5	4.8	5.3	5.4	6.0	6.6	7.0	
40 to 60	3.5	3.5	3.7	3.8	4.0	4.1	4.1	4.2	4.4	4.7	5.2	5.2	5.8	6.3	6.7	
20 to 40	3.4	3.5	3.6	3.8	3.9	4.0	4.1	4.1	4.3	4.6	5.0	5.1	5.6	6.2	6.6	
0 to 20	3.4	3.5	3.6	3.7	3.8	4.0	4.0	4.0	4.2	4.5	5.0	5.0	5.5	6.0	6.4	
-20 to 0	3.4	3.5	3.6	3.7	3.8	4.0	4.0	4.1	4.2	4.5	4.9	5.0	5.5	6.0	6.3	
-40 to -20	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.1	4.3	4.5	5.0	5.0	5.5	5.9	6.3	
-60 to -40 (ref.)	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.3	4.5	4.7	5.1	5.2	5.6	6.0	6.4	
-70 to -60 (ref.)	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.5	4.7	4.9	5.3	5.3	5.8	6.2	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	2.6	2.7	2.9	3.0	3.1	3.3	3.3	3.3	3.6	3.8	4.4	4.4	5.0	5.6	6.0	
60 to 80	2.4	2.5	2.7	2.8	2.9	3.1	3.1	3.1	3.4	3.6	4.1	4.2	4.8	5.3	5.8	
40 to 60	2.2	2.2	2.4	2.5	2.7	2.8	2.8	2.9	3.1	3.3	3.8	3.9	4.4	5.0	5.4	
20 to 40	1.9	2.0	2.2	2.3	2.4	2.5	2.6	2.6	2.8	3.0	3.5	3.6	4.1	4.6	5.0	
0 to 20	1.7	1.8	1.9	2.0	2.1	2.3	2.3	2.3	2.5	2.8	3.2	3.3	3.8	4.3	4.6	
-20 to 0	1.4	1.5	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.5	2.9	3.0	3.4	3.9	4.2	
-40 to -20	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.8	2.0	2.2	2.6	2.7	3.1	3.5	3.8	
-60 to -40	1.0	1.0	1.2	1.3	1.4	1.5	1.5	1.5	1.7	1.9	2.3	2.3	2.8	3.2	3.5	
-70 to -60	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.3	1.5	1.7	2.1	2.1	2.5	2.9	3.2	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.18612501E-01
Q1	7.86740795E+01
P2	4.18812526E-02
Q2	2.43324368E-02
P3	3.45358995E-01
Q3	4.99355035E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.6	2.3
Frac. eq. (ref.)	0.6	2.3

Prod. Freq. (A to D)	C
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Similar glass type			
OHARA	S-LAL10	HOYA	LAC10
CDGM	H-LaK8A	SCHOTT	N-LAK10

2022-7-1	StP, AP, SP
2019-4-1	Transmittance
2015-4-1	Color Code