

# J-LAK12

$n_d = 1.677900$

$n_e = 1.680819$

$v_d = 55.35$

$v_e = 55.09$

Glass code (d)
678554
Glass code (e)
681551

Spectral l.	Refractive idx
2.058	1.64867
1.970	1.65010
1.530	1.65664
1.129	1.66240
1.064	1.66345
t	1.66432
s	1.66767
A'	1.669970
r	1.672081
C	1.674187
C'	1.674777
He-Ne	1.675328
D	1.677791
d	1.677900
e	1.680819
F	1.686435
F'	1.687136
g	1.693135
h	1.698714
0.389	1.702124
i	1.708258

Partial dispersion	
F-C	0.012248
F'-C'	0.012359
C-t	0.009872
C-A'	0.004217
d-C	0.003713
e-C	0.006632
g-d	0.015235
g-F	0.006700
h-g	0.005579
i-g	0.015123
C'-t	0.010462
e-C'	0.006042
F'-e	0.006317
i-F'	0.021122

Relative partial dispersion	
C-t/F-C	0.8060
C-A'/F-C	0.3443
d-C/F-C	0.3032
e-C/F-C	0.5415
g-d/F-C	1.2439
g-F/F-C	0.5470
h-g/F-C	0.4555
i-g/F-C	1.2347
C'-t/F'-C'	0.8465
e-C'/F'-C'	0.4889
F'-e/F'-C'	0.5111
i-F'/F'-C'	1.7090

Deviation of relative partial disp.	
$\Delta PdC$	0.0010
$\Delta PgF$	-0.0045

Internal CC (80%/5%)	
349/293	
Color Code (80%/5%)	
365/295	
CCI	
B	0.00
G	0.36
R	0.33

Thermal properties	
CTE(-30,70) [1E-7/°C]	78
CTE(100,300) [1E-7/°C]	91
Tg [°C]	640
At [°C]	669
StP [°C]	595
AP [°C]	624
SP [°C]	726
Ht condct. [W/m·K]	0.803
Sp. heat [kJ/kg·K]	0.527
Ht diffus. [1E-6 m2/sec]	0.402

Chemical properties [class]	
Acid res. (surface)	6
Alkaline detergent res.	4
Climate resistance	2
Water res. (powder)	3
Acid res. (powder)	4

Mechanical properties	
Knoop hardness	497 (5)
Abrasion hardness	144
Young's mod. [GPa]	93.6
Shear mod. [GPa]	36.3
Poisson's ratio	0.291
Stress optical coef. [1E-5 nm/cm/Pa]	2.06

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	-
290	0.04
300	0.11
310	0.24
320	0.40
330	0.56
340	0.70
350	0.81
360	0.89
370	0.934
380	0.960
390	0.975
400	0.982
420	0.989
440	0.991
460	0.993
480	0.995
500	0.997
550	0.998
600	0.997
650	0.997
700	0.998
800	0.998
900	0.998
1000	0.998
1200	0.997
1400	0.998
1600	0.992
1800	0.982
2000	0.969
2200	0.921
2400	0.74

Specific gravity
3.78

Coef. disp. form. (pwr ser.)	
A0	2.76331704E+00
A1	-1.11612524E-02
A2	-1.29016401E-04
A3	1.84973677E-02
A4	2.56863267E-04
A5	6.55822525E-06
A6	7.62548252E-08
A7	0.00000000E+00
A8	0.00000000E+00

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.)	0.3	0.3	0.4	0.6	0.7	0.8	0.9	0.9	1.1	1.2	1.6	1.7	2.1	2.6	2.8			
60 to 80 (ref.)	0.2	0.2	0.4	0.5	0.6	0.7	0.8	0.8	1.0	1.1	1.5	1.5	2.0	2.4	2.7			
40 to 60	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.7	0.8	1.0	1.4	1.4	1.8	2.3	2.5			
20 to 40	0.1	0.1	0.2	0.3	0.5	0.6	0.6	0.6	0.8	0.9	1.3	1.3	1.7	2.1	2.4			
0 to 20	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.7	0.9	1.2	1.3	1.7	2.0	2.3			
-20 to 0	0.1	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.7	0.9	1.2	1.2	1.6	2.0	2.2			
-40 to -20	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.7	0.8	1.0	1.3	1.3	1.7	2.0	2.2			
-60 to -40 (ref.)	0.4	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.9	1.0	1.1	1.4	1.5	1.8	2.2	2.4		
-70 to -60 (ref.)	0.6	0.6	0.7	0.8	0.9	1.0	1.0	1.1	1.2	1.3	1.6	1.7	2.0	2.4	2.5			

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	-0.7	-0.7	-0.6	-0.4	-0.3	-0.2	-0.2	-0.1	0.0	0.2	0.5	0.6	1.0	1.5	1.7		
60 to 80	-0.9	-0.9	-0.7	-0.6	-0.5	-0.4	-0.4	-0.3	-0.2	0.0	0.3	0.4	0.8	1.2	1.5		
40 to 60	-1.1	-1.1	-1.0	-0.9	-0.8	-0.6	-0.6	-0.6	-0.4	-0.3	0.1	0.1	0.5	0.9	1.2		
20 to 40	-1.4	-1.3	-1.2	-1.1	-1.0	-0.9	-0.9	-0.8	-0.7	-0.5	-0.2	-0.2	0.2	0.6	0.8		
0 to 20	-1.6	-1.6	-1.4	-1.3	-1.2	-1.1	-1.1	-1.1	-1.0	-0.8	-0.5	-0.4	-0.1	0.3	0.5		
-20 to 0	-1.8	-1.8	-1.7	-1.6	-1.5	-1.4	-1.4	-1.3	-1.2	-1.1	-0.8	-0.7	-0.4	0.0	0.2		
-40 to -20	-2.1	-2.0	-1.9	-1.8	-1.7	-1.6	-1.6	-1.6	-1.5	-1.3	-1.0	-1.0	-0.6	-0.3	-0.1		
-60 to -40	-2.3	-2.3	-2.2	-2.1	-2.0	-1.9	-1.9	-1.8	-1.7	-1.6	-1.3	-1.3	-0.9	-0.6	-0.4		
-70 to -60	-2.5	-2.4	-2.3	-2.2	-2.2	-2.1	-2.1	-2.0	-1.9	-1.8	-1.5	-1.5	-1.2	-0.9	-0.7		

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.18309052E-01
Q1	7.97713112E+01
P2	4.45527521E-02
Q2	2.07866430E-02
P3	3.25656493E-01
Q3	4.64629751E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.4	3.3
Frac. eq. (ref.)	0.5	3.3

Prod. Freq. (A to D)	C
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Similar glass type			
OHARA	S-LAL12	HOYA	LAC12
CDGM	H-LaK5A	SCHOTT	N-LAK12

2022-7-1	StP, AP, SP
2019-4-1	Transmittance
2018-4-1	Prod. Freq.