

# J-LAK7R

$n_d = 1.651600$

$n_e = 1.654251$

$v_d = 58.62$

$v_e = 58.39$

Glass code (d)
652586
Glass code (e)
654584

Spectral l.	Refractive idx
2.058	1.62217
1.970	1.62376
1.530	1.63092
1.129	1.63696
1.064	1.63802
t	1.63888
s	1.64213
A'	1.644299
r	1.646264
C	1.648206
C'	1.648747
He-Ne	1.649252
D	1.651501
d	1.651600
e	1.654251
F	1.659322
F'	1.659952
g	1.665335
h	1.670319
0.389	1.673357
i	1.678803

Coef. disp. form. (pwr ser.)	
A0	2.68281356E+00
A1	-1.24621940E-02
A2	-1.36478256E-04
A3	1.62751692E-02
A4	2.53121787E-04
A5	1.72812439E-07
A6	2.34124836E-07
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.011116
F'-C'	0.011205
C-t	0.009327
C-A'	0.003907
d-C	0.003394
e-C	0.006045
g-d	0.013735
g-F	0.006013
h-g	0.004984
i-g	0.013468
C'-t	0.009868
e-C'	0.005504
F'-e	0.005701
i-F'	0.018851

Relative partial dispersion	
C-t/F-C	0.8391
C-A'/F-C	0.3515
d-C/F-C	0.3053
e-C/F-C	0.5438
g-d/F-C	1.2356
g-F/F-C	0.5409
h-g/F-C	0.4484
i-g/F-C	1.2116
C'-t/F'-C'	0.8807
e-C'/F'-C'	0.4912
F'-e/F'-C'	0.5088
i-F'/F'-C'	1.6824

Deviation of relative partial disp.	
$\Delta PdC$	0.0017
$\Delta PgF$	-0.0051

Internal CC (80%/5%)	
330/270	

Color Code (80%/5%)	
350/270	

CCI	
B	0.00
G	0.18
R	0.18

Thermal properties	
CTE(-30,70) [1E-7/°C]	61
CTE(100,300) [1E-7/°C]	78
Tg [°C]	650
At [°C]	677
Ht condct. [W/m·K]	0.805
Sp. heat [kJ/kg·K]	0.642
Ht diffus. [1E-6 m2/sec]	0.375

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

Mechanical properties	
Knoop hardness	568 (6)
Abrasion hardness	87
Young's mod. [GPa]	101.7
Shear mod. [GPa]	39.6
Poisson's ratio	0.283
Stress optical coef. [1E-5 nm/cm/Pa]	2.11

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	0.13
290	0.27
300	0.42
310	0.55
320	0.69
330	0.80
340	0.87
350	0.920
360	0.953
370	0.970
380	0.981
390	0.987
400	0.990
420	0.993
440	0.994
460	0.996
480	0.996
500	0.997
550	0.998
600	0.998
650	0.998
700	0.999
800	0.997
900	0.995
1000	0.996
1200	0.997
1400	0.993
1600	0.989
1800	0.979
2000	0.961
2200	0.88
2400	0.67

Specific gravity	
3.34	

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.)	2.8	2.9	3.0	3.1	3.2	3.3	3.3	3.4	3.5	3.7	4.0	4.1	4.5	4.8	5.1	
60 to 80 (ref.)	2.7	2.8	2.9	3.0	3.1	3.2	3.2	3.2	3.4	3.5	3.9	3.9	4.3	4.7	4.9	
40 to 60	2.6	2.6	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.4	3.7	3.8	4.1	4.5	4.7	
20 to 40	2.5	2.5	2.7	2.7	2.8	2.9	3.0	3.0	3.1	3.3	3.6	3.6	4.0	4.3	4.5	
0 to 20	2.4	2.5	2.6	2.7	2.8	2.9	2.9	2.9	3.0	3.2	3.5	3.5	3.8	4.2	4.4	
-20 to 0	2.4	2.5	2.6	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.4	3.5	3.8	4.1	4.3	
-40 to -20	2.5	2.5	2.6	2.7	2.8	2.9	2.9	2.9	3.0	3.2	3.4	3.5	3.8	4.1	4.3	
-60 to -40 (ref.)	2.6	2.7	2.8	2.9	2.9	3.0	3.0	3.1	3.2	3.3	3.6	3.6	3.9	4.2	4.3	
-70 to -60 (ref.)	2.8	2.9	3.0	3.0	3.1	3.2	3.2	3.2	3.3	3.5	3.7	3.8	4.0	4.3	4.5	

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	1.8	1.9	2.0	2.1	2.2	2.3	2.3	2.3	2.5	2.6	3.0	3.0	3.4	3.8	4.0	
60 to 80	1.6	1.7	1.8	1.9	2.0	2.1	2.1	2.1	2.3	2.4	2.7	2.8	3.1	3.5	3.7	
40 to 60	1.4	1.4	1.5	1.6	1.7	1.8	1.8	1.8	2.0	2.1	2.4	2.5	2.8	3.2	3.4	
20 to 40	1.1	1.1	1.2	1.3	1.4	1.5	1.5	1.5	1.7	1.8	2.1	2.1	2.5	2.8	3.0	
0 to 20	0.8	0.9	1.0	1.0	1.1	1.2	1.2	1.3	1.4	1.5	1.8	1.8	2.1	2.5	2.6	
-20 to 0	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.1	1.2	1.5	1.5	1.8	2.1	2.3	
-40 to -20	0.3	0.3	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.9	1.2	1.2	1.5	1.8	1.9	
-60 to -40	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.8	0.9	1.1	1.4	1.6	
-70 to -60	-0.2	-0.1	-0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.6	0.6	0.9	1.1	1.3	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.26542642E-01
Q1	7.44164113E+01
P2	1.60959593E-01
Q2	1.20300900E-02
P3	1.98399854E-01
Q3	1.51065344E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.5	3.4
Frac. eq. (ref.)	0.5	4.0

Prod. Freq. (A to D)	C
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Similar glass type			
OHARA	S-LAL7	HOYA	LAC7
CDGM	H-LaK50A	SCHOTT	N-LAK7

2019-4-1	Transmittance
2018-4-1	Prod. Freq.
2015-4-1	1st edition