

# J-BAK4

$n_d = 1.568830$

$n_e = 1.571250$

$v_d = 56.00$

$v_e = 55.73$

Glass code (d)	569560
Glass code (e)	571557

Spectral l.	Refractive idx
2.058	1.54426
1.970	1.54548
1.530	1.55104
1.129	1.55592
1.064	1.55680
t	1.55753
s	1.56033
A'	1.562249
r	1.564003
C	1.565751
C'	1.566241
He-Ne	1.566698
D	1.568740
d	1.568830
e	1.571250
F	1.575909
F'	1.576491
g	1.581480
h	1.586137
0.389	1.588993
i	1.594153

Coef. disp. form. (pwr ser.)	
A0	2.42114503E+00
A1	-8.99959341E-03
A2	-9.30006854E-05
A3	1.43071120E-02
A4	1.89993274E-04
A5	6.09602388E-06
A6	2.25737069E-07
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.010158
F'-C'	0.010250
C-t	0.008223
C-A'	0.003502
d-C	0.003079
e-C	0.005499
g-d	0.012650
g-F	0.005571
h-g	0.004657
i-g	0.012673
C'-t	0.008713
e-C'	0.005009
F'-e	0.005241
i-F'	0.017662

Relative partial dispersion	
C-t/F-C	0.8095
C-A'/F-C	0.3448
d-C/F-C	0.3031
e-C/F-C	0.5413
g-d/F-C	1.2453
g-F/F-C	0.5484
h-g/F-C	0.4585
i-g/F-C	1.2476
C'-t/F'-C'	0.8500
e-C'/F'-C'	0.4887
F'-e/F'-C'	0.5113
i-F'/F'-C'	1.7231

Deviation of relative partial disp.	
$\Delta PdC$	0.0006
$\Delta PgF$	-0.0020

Specific gravity	2.84
------------------	------

Thermal properties	
CTE(-30,70) [1E-7/°C]	70
CTE(100,300) [1E-7/°C]	84
Tg [°C]	580
At [°C]	635
Ht condct. [W/m·K]	0.993
Sp. heat [kJ/kg·K]	0.697
Ht diffus. [1E-6 m2/sec]	0.500

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

Mechanical properties	
Knoop hardness	509 (5)
Abrasion hardness	115
Young's mod. [GPa]	82.1
Shear mod. [GPa]	32.9
Poisson's ratio	0.246
Stress optical coef. [1E-5 nm/cm/Pa]	2.62

Color Code (80%/5%)		360/330
Internal CC		353/328
Internal trans. (10mm)		
$\lambda$ [nm]	$\tau$	
280		-
290		-
300		-
310		-
320		-
330	0.10	
340	0.45	
350	0.74	
360	0.88	
365	0.922	
370	0.947	
380	0.971	
390	0.983	
400	0.990	
420	0.993	
440	0.993	
460	0.994	
480	0.995	
500	0.996	
550	0.995	
600	0.995	
650	0.994	
700	0.993	
800	0.989	
900	0.998	
1000	0.996	
1200	0.999	
1400	0.984	
1600	0.990	
1800	0.972	
2000	0.955	
2200	0.88	
2400	0.83	

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	2.9	3.1	3.2	3.3	3.4	3.4	3.6	3.7	4.1	4.1	4.6	5.0	5.2	
60 to 80 (ref.)	2.7	2.7	2.9	3.0	3.1	3.2	3.2	3.3	3.4	3.6	3.9	4.0	4.4	4.8	5.1	
40 to 60	2.6	2.6	2.7	2.8	2.9	3.1	3.1	3.1	3.3	3.4	3.8	3.8	4.2	4.6	4.9	
20 to 40	2.5	2.5	2.6	2.7	2.8	2.9	3.0	3.0	3.1	3.3	3.6	3.7	4.1	4.4	4.7	
0 to 20	2.4	2.4	2.5	2.6	2.7	2.8	2.9	2.9	3.0	3.2	3.5	3.5	3.9	4.3	4.5	
-20 to 0	2.4	2.4	2.5	2.6	2.7	2.8	2.8	2.9	3.0	3.1	3.4	3.5	3.9	4.2	4.4	
-40 to -20	2.4	2.4	2.5	2.6	2.7	2.8	2.9	2.9	3.0	3.1	3.4	3.5	3.8	4.2	4.4	
-60 to -40 (ref.)	2.5	2.5	2.6	2.7	2.8	2.9	3.0	3.0	3.1	3.2	3.5	3.6	3.9	4.3	4.5	
-70 to -60 (ref.)	2.7	2.7	2.8	2.9	3.0	3.1	3.1	3.1	3.3	3.4	3.7	3.7	4.1	4.4	4.6	

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	1.9	1.9	2.0	2.1	2.2	2.4	2.4	2.4	2.6	2.7	3.1	3.1	3.6	4.0	4.2	
60 to 80	1.7	1.7	1.8	1.9	2.0	2.1	2.2	2.2	2.4	2.5	2.9	2.9	3.3	3.7	4.0	
40 to 60	1.4	1.4	1.5	1.6	1.7	1.9	1.9	1.9	2.1	2.2	2.5	2.6	3.0	3.4	3.6	
20 to 40	1.1	1.1	1.3	1.4	1.5	1.6	1.6	1.6	1.8	1.9	2.2	2.3	2.7	3.0	3.3	
0 to 20	0.9	0.9	1.0	1.1	1.2	1.3	1.3	1.3	1.5	1.6	1.9	2.0	2.3	2.7	2.9	
-20 to 0	0.6	0.6	0.7	0.8	0.9	1.0	1.0	1.0	1.2	1.3	1.6	1.6	2.0	2.3	2.5	
-40 to -20	0.3	0.3	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.3	1.3	1.7	2.0	2.2	
-60 to -40	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.6	0.7	1.0	1.0	1.3	1.7	1.8	
-70 to -60	-0.2	-0.1	-0.1	0.0	0.1	0.2	0.2	0.2	0.3	0.5	0.7	0.8	1.1	1.4	1.6	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.32025131E-01
Q1	9.47904687E+01
P2	1.03988255E-02
Q2	3.68050059E-02
P3	3.11070528E-01
Q3	5.79597844E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.5	4.1
Frac. eq. (ref.)	0.5	5.1

Prod. Freq. (A to D)	C
----------------------	---

Similar glass type			
OHARA	S-BAL14	HOYA	BAC4
CDGM	H-BaK7	SCHOTT	N-BAK4

2015-4-1	Color Code
2009-9-1	1st edition