

# J-BAF4

$n_d = 1.605620$

$n_e = 1.608924$

$v_d = 43.49$

$v_e = 43.20$

Glass code (d)	606435
Glass code (e)	609432

Spectral l.	Refractive idx
2.058	1.57560
1.970	1.57696
1.530	1.58321
1.129	1.58891
1.064	1.58998
t	1.59088
s	1.59440
A'	1.596870
r	1.599166
C	1.601481
C'	1.602134
He-Ne	1.602745
D	1.605498
d	1.605620
e	1.608924
F	1.615408
F'	1.616230
g	1.623384
h	1.630262
0.389	1.634595
i	1.642691

Coef. disp. form. (pwr ser.)	
A0	2.52175840E+00
A1	-9.79498428E-03
A2	-1.34973275E-04
A3	1.97297837E-02
A4	7.13034071E-05
A5	1.03716753E-04
A6	-1.06452623E-05
A7	6.63899530E-07
A8	0.00000000E+00

Partial dispersion	
F-C	0.013927
F'-C'	0.014096
C-t	0.010604
C-A'	0.004611
d-C	0.004139
e-C	0.007443
g-d	0.017764
g-F	0.007976
h-g	0.006878
i-g	0.019307
C'-t	0.011257
e-C'	0.006790
F'-e	0.007306
i-F'	0.026461

Relative partial dispersion	
C-t/F-C	0.7614
C-A'/F-C	0.3311
d-C/F-C	0.2972
e-C/F-C	0.5344
g-d/F-C	1.2755
g-F/F-C	0.5727
h-g/F-C	0.4939
i-g/F-C	1.3863
C'-t/F'-C'	0.7986
e-C'/F'-C'	0.4817
F'-e/F'-C'	0.5183
i-F'/F'-C'	1.8772

Deviation of relative partial disp.	
$\Delta PdC$	0.0004
$\Delta PgF$	0.0013

Internal CC (80%/5%)	
377/352	

Color Code (80%/5%)	
390/350	

CCI	
B	-
G	-
R	-

Thermal properties	
CTE(-30,70) [1E-7/°C]	62
CTE(100,300) [1E-7/°C]	76
Tg [°C]	598
At [°C]	651
Ht condct. [W/m·K]	1.058
Sp. heat [kJ/kg·K]	0.697
Ht diffus. [1E-6 m2/sec]	0.525

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

Mechanical properties	
Knoop hardness	482 (5)
Abrasion hardness	108
Young's mod. [GPa]	84.6
Shear mod. [GPa]	34.2
Poisson's ratio	0.236
Stress optical coef. [1E-5 nm/cm/Pa]	3.11

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	0.00
290	0.00
300	0.00
310	0.00
320	0.00
330	0.00
340	0.00
350	0.02
360	0.29
370	0.66
380	0.84
390	0.916
400	0.950
420	0.973
440	0.978
460	0.983
480	0.986
500	0.989
550	0.992
600	0.993
650	0.992
700	0.992
800	0.994
900	0.996
1000	0.996
1200	0.997
1400	0.982
1600	0.990
1800	0.982
2000	0.971
2200	0.901
2400	0.87

Specific gravity	
2.89	

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.)	4.2	4.3	4.5	4.7	4.8	5.0	5.0	5.1	5.3	5.6	6.2	6.3	7.0	7.8	8.4	
60 to 80 (ref.)	4.1	4.2	4.4	4.5	4.7	4.8	4.9	4.9	5.1	5.4	6.0	6.1	6.8	7.6	8.1	
40 to 60	3.9	4.0	4.2	4.3	4.5	4.7	4.7	4.7	4.9	5.2	5.7	5.8	6.5	7.3	7.8	
20 to 40	3.8	3.9	4.1	4.2	4.3	4.5	4.5	4.6	4.8	5.0	5.5	5.6	6.3	7.0	7.5	
0 to 20	3.7	3.8	4.0	4.1	4.2	4.4	4.4	4.4	4.6	4.9	5.4	5.4	6.0	6.7	7.2	
-20 to 0	3.7	3.7	3.9	4.0	4.2	4.3	4.3	4.4	4.5	4.8	5.2	5.3	5.9	6.5	7.0	
-40 to -20	3.7	3.7	3.9	4.0	4.2	4.3	4.3	4.4	4.5	4.7	5.2	5.2	5.8	6.4	6.9	
-60 to -40 (ref.)	3.8	3.9	4.0	4.1	4.2	4.4	4.4	4.4	4.6	4.8	5.2	5.3	5.8	6.4	6.8	
-70 to -60 (ref.)	4.0	4.0	4.2	4.3	4.4	4.5	4.5	4.6	4.7	4.9	5.3	5.4	5.9	6.5	6.9	

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	3.3	3.3	3.5	3.7	3.8	4.0	4.0	4.1	4.3	4.6	5.2	5.2	6.0	6.8	7.3	
60 to 80	3.0	3.1	3.3	3.4	3.6	3.8	3.8	3.8	4.1	4.3	4.9	4.9	5.7	6.4	7.0	
40 to 60	2.7	2.8	3.0	3.1	3.3	3.4	3.5	3.5	3.7	4.0	4.5	4.6	5.2	6.0	6.5	
20 to 40	2.4	2.5	2.7	2.8	3.0	3.1	3.1	3.2	3.4	3.6	4.1	4.2	4.8	5.5	6.0	
0 to 20	2.2	2.2	2.4	2.5	2.6	2.8	2.8	2.9	3.0	3.3	3.7	3.8	4.4	5.1	5.6	
-20 to 0	1.9	1.9	2.1	2.2	2.3	2.4	2.5	2.5	2.7	2.9	3.3	3.4	4.0	4.6	5.1	
-40 to -20	1.6	1.6	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.5	3.0	3.0	3.6	4.2	4.6	
-60 to -40	1.3	1.3	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.2	2.6	2.6	3.1	3.7	4.1	
-70 to -60	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.6	1.8	1.9	2.3	2.4	2.8	3.4	3.8	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.10004273E-01
Q1	7.52194401E+01
P2	9.42216527E-03
Q2	5.73632071E-02
P3	3.27207024E-01
Q3	6.92180568E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.7	8.9
Frac. eq. (ref.)	1.5	8.6

Prod. Freq. (A to D)	D
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Similar glass type			
OHARA	S-BAM4	HOYA	-
CDGM	H-BaF5	SCHOTT	N-BAF4

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