

# J-BALF4

$n_d = 1.579570$

$n_e = 1.582139$

$v_d = 53.74$

$v_e = 53.46$

Glass code (d)	580537
Glass code (e)	582535

Spectral l.	Refractive idx
2.058	1.55505
1.970	1.55620
1.530	1.56144
1.129	1.56618
1.064	1.56706
t	1.56780
s	1.57066
A'	1.572644
r	1.574478
C	1.576316
C'	1.576832
He-Ne	1.577314
D	1.579474
d	1.579570
e	1.582139
F	1.587100
F'	1.587721
g	1.593052
h	1.598037
0.389	1.601097
i	1.606631

Coef. disp. form. (pwr ser.)	
A0	2.45156936E+00
A1	-8.35914203E-03
A2	-8.88499407E-05
A3	1.53016408E-02
A4	2.24512880E-04
A5	5.89498036E-06
A6	2.59209632E-07
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.010784
F'-C'	0.010889
C-t	0.008521
C-A'	0.003672
d-C	0.003254
e-C	0.005823
g-d	0.013482
g-F	0.005952
h-g	0.004985
i-g	0.013579
C'-t	0.009037
e-C'	0.005307
F'-e	0.005582
i-F'	0.018910

Relative partial dispersion	
C-t/F-C	0.7902
C-A'/F-C	0.3405
d-C/F-C	0.3017
e-C/F-C	0.5400
g-d/F-C	1.2502
g-F/F-C	0.5519
h-g/F-C	0.4623
i-g/F-C	1.2592
C'-t/F'-C'	0.8299
e-C'/F'-C'	0.4874
F'-e/F'-C'	0.5126
i-F'/F'-C'	1.7366

Deviation of relative partial disp.	
$\Delta PdC$	0.0003
$\Delta PgF$	-0.0023

Internal CC (80%/5%)	
354/320	

Color Code (80%/5%)	
360/320	

CCI	
B	0.00
G	0.25
R	0.22

Thermal properties	
CTE(-30,70) [1E-7/°C]	80
CTE(100,300) [1E-7/°C]	99
Tg [°C]	529
At [°C]	577
Ht condct. [W/m·K]	0.793
Sp. heat [kJ/kg·K]	0.623
Ht diffus. [1E-6 m2/sec]	0.409

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

Mechanical properties	
Knoop hardness	511 (5)
Abrasion hardness	131
Young's mod. [GPa]	74.3
Shear mod. [GPa]	29.4
Poisson's ratio	0.262
Stress optical coef. [1E-5 nm/cm/Pa]	3.09

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	0.00
290	0.00
300	0.00
310	0.00
320	0.05
330	0.23
340	0.52
350	0.75
360	0.88
370	0.941
380	0.970
390	0.984
400	0.991
420	0.995
440	0.995
460	0.995
480	0.997
500	0.998
550	0.999
600	0.999
650	0.998
700	0.999
800	0.998
900	0.998
1000	0.998
1200	0.998
1400	0.993
1600	0.990
1800	0.977
2000	0.962
2200	0.907
2400	0.84

Specific gravity	
3.13	

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.)	2.2	2.2	2.3	2.5	2.7	2.8	2.8	2.9	3.1	3.3	3.7	3.8	4.3	4.8	5.1	
60 to 80 (ref.)	2.1	2.1	2.3	2.4	2.5	2.7	2.7	2.8	2.9	3.1	3.6	3.6	4.1	4.6	4.9	
40 to 60	2.0	2.0	2.1	2.3	2.4	2.5	2.6	2.6	2.8	3.0	3.4	3.4	3.9	4.4	4.7	
20 to 40	1.9	1.9	2.1	2.2	2.3	2.4	2.5	2.5	2.7	2.8	3.2	3.3	3.8	4.2	4.5	
0 to 20	1.8	1.9	2.0	2.1	2.2	2.4	2.4	2.4	2.6	2.8	3.1	3.2	3.6	4.1	4.3	
-20 to 0	1.8	1.8	2.0	2.1	2.2	2.3	2.4	2.4	2.5	2.7	3.1	3.1	3.5	4.0	4.2	
-40 to -20	1.9	1.9	2.0	2.1	2.2	2.4	2.4	2.4	2.6	2.7	3.1	3.1	3.5	3.9	4.2	
-60 to -40 (ref.)	2.0	2.0	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.8	3.2	3.2	3.6	4.0	4.2	
-70 to -60 (ref.)	2.2	2.2	2.3	2.4	2.6	2.7	2.7	2.7	2.9	3.0	3.3	3.4	3.8	4.1	4.4	

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	1.2	1.3	1.4	1.5	1.7	1.8	1.9	1.9	2.1	2.3	2.7	2.8	3.3	3.8	4.1	
60 to 80	1.0	1.1	1.2	1.3	1.5	1.6	1.6	1.7	1.9	2.1	2.5	2.5	3.0	3.5	3.8	
40 to 60	0.8	0.8	1.0	1.1	1.2	1.3	1.4	1.4	1.6	1.8	2.2	2.2	2.7	3.1	3.4	
20 to 40	0.5	0.6	0.7	0.8	0.9	1.1	1.1	1.1	1.3	1.5	1.8	1.9	2.3	2.8	3.1	
0 to 20	0.3	0.3	0.4	0.5	0.7	0.8	0.8	0.8	1.0	1.2	1.5	1.6	2.0	2.4	2.7	
-20 to 0	0.0	0.1	0.2	0.3	0.4	0.5	0.5	0.6	0.7	0.9	1.2	1.3	1.7	2.1	2.3	
-40 to -20	-0.2	-0.2	-0.1	0.0	0.1	0.2	0.3	0.3	0.4	0.6	0.9	1.0	1.3	1.7	2.0	
-60 to -40	-0.5	-0.5	-0.3	-0.2	-0.1	0.0	0.0	0.0	0.1	0.3	0.6	0.6	1.0	1.4	1.6	
-70 to -60	-0.7	-0.6	-0.5	-0.4	-0.4	-0.3	-0.2	-0.2	-0.1	0.1	0.4	0.4	0.8	1.1	1.3	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.18078949E-01
Q1	9.26271780E+01
P2	1.61813352E-02
Q2	3.26808720E-02
P3	3.09920889E-01
Q3	5.74581058E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.4	5.2
Frac. eq. (ref.)	0.4	5.7

Prod. Freq. (A to D)	C
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Similar glass type			
OHARA	-	HOYA	-
CDGM	H-BaF3	SCHOTT	N-BALF4

2019-4-1	Transmittance
2015-4-1	Color Code, Prod. Freq, Similar glass type
2011-2-1	Similar glass type