

# J-LASFH22

$n_d = 1.848500$

$n_e = 1.853109$

$v_d = 43.79$

$v_e = 43.54$

Glass code (d)	849438
Glass code (e)	853435

Spectral l.	Refractive idx
2.058	1.81010
1.970	1.81160
1.530	1.81871
1.129	1.82567
1.064	1.82704
t	1.82821
s	1.83293
A'	1.836311
r	1.839491
C	1.842718
C'	1.843630
He-Ne	1.844484
D	1.848329
d	1.848500
e	1.853109
F	1.862094
F'	1.863225
g	1.872983
h	1.882178
0.389	1.887856
i	1.898179

Coef. disp. form. (pwr ser.)	
A0	3.32390176E+00
A1	-1.24810607E-02
A2	-1.16698235E-04
A3	3.16622125E-02
A4	6.39837554E-04
A5	8.85550500E-06
A6	1.07749628E-06
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.019376
F'-C'	0.019595
C-t	0.014507
C-A'	0.006407
d-C	0.005782
e-C	0.010391
g-d	0.024483
g-F	0.010889
h-g	0.009195
i-g	0.025196
C'-t	0.015419
e-C'	0.009479
F'-e	0.010116
i-F'	0.034954

Relative partial dispersion	
C-t/F-C	0.7487
C-A'/F-C	0.3307
d-C/F-C	0.2984
e-C/F-C	0.5363
g-d/F-C	1.2636
g-F/F-C	0.5620
h-g/F-C	0.4746
i-g/F-C	1.3004
C'-t/F'-C'	0.7869
e-C'/F'-C'	0.4837
F'-e/F'-C'	0.5163
i-F'/F'-C'	1.7838

Deviation of relative partial disp.	
$\Delta PdC$	0.0014
$\Delta PgF$	-0.0089

Internal CC (80%/5%)	
363/326	

Color Code (70%/5%)	
370/325	

CCI	
B	0.00
G	0.89
R	0.92

Thermal properties	
CTE(-30,70) [1E-7/°C]	63
CTE(100,300) [1E-7/°C]	79
Tg [°C]	690
At [°C]	736
Ht condct. [W/m·K]	0.832
Sp. heat [kJ/kg·K]	0.450
Ht diffus. [1E-6 m2/sec]	0.363

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

Mechanical properties	
Knoop hardness	637 (6)
Abrasion hardness	58
Young's mod. [GPa]	120.4
Shear mod. [GPa]	46.1
Poisson's ratio	0.306
Stress optical coef. [1E-5 nm/cm/Pa]	1.19

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	0.00
290	0.00
300	0.00
310	0.00
320	0.00
330	0.11
340	0.37
350	0.62
360	0.77
370	0.86
380	0.913
390	0.942
400	0.958
420	0.975
440	0.982
460	0.988
480	0.991
500	0.994
550	0.998
600	0.998
650	0.998
700	0.998
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.999
1600	0.999
1800	0.993
2000	0.978
2200	0.950
2400	0.82

Specific gravity	
5.08	

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.)	4.0	4.1	4.4	4.7	4.9	5.2	5.2	5.3	5.6	6.0	6.8	6.9	7.8	8.7	9.4
60 to 80 (ref.)	3.9	4.0	4.4	4.6	4.8	5.0	5.1	5.2	5.5	5.8	6.6	6.7	7.5	8.5	9.1
40 to 60	3.8	3.9	4.2	4.4	4.7	4.9	5.0	5.0	5.3	5.7	6.4	6.4	7.3	8.1	8.6
20 to 40	3.8	3.8	4.1	4.4	4.6	4.8	4.8	4.9	5.2	5.5	6.2	6.2	7.0	7.8	8.3
0 to 20	3.7	3.8	4.1	4.3	4.5	4.7	4.8	4.8	5.1	5.4	6.0	6.1	6.8	7.5	7.9
-20 to 0	3.8	3.8	4.1	4.3	4.5	4.7	4.8	4.8	5.1	5.3	5.9	6.0	6.6	7.2	7.6
-40 to -20	3.9	3.9	4.2	4.4	4.6	4.8	4.8	4.9	5.1	5.4	5.9	6.0	6.5	7.1	7.4
-60 to -40 (ref.)	4.1	4.1	4.4	4.6	4.8	4.9	5.0	5.0	5.2	5.5	6.0	6.0	6.6	7.1	7.3
-70 to -60 (ref.)	4.3	4.4	4.6	4.8	5.0	5.1	5.2	5.2	5.4	5.7	6.1	6.2	6.7	7.1	7.4

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	2.9	3.0	3.3	3.5	3.8	4.0	4.1	4.2	4.5	4.8	5.6	5.7	6.6	7.5	8.2
60 to 80	2.7	2.8	3.1	3.3	3.6	3.8	3.9	3.9	4.2	4.6	5.3	5.4	6.3	7.1	7.7
40 to 60	2.4	2.5	2.8	3.1	3.3	3.5	3.6	3.6	3.9	4.2	4.9	5.0	5.8	6.6	7.2
20 to 40	2.2	2.3	2.6	2.8	3.0	3.2	3.2	3.3	3.6	3.9	4.5	4.6	5.3	6.1	6.6
0 to 20	1.9	2.0	2.3	2.5	2.7	2.9	2.9	3.0	3.2	3.5	4.1	4.2	4.9	5.6	6.0
-20 to 0	1.7	1.7	2.0	2.2	2.4	2.6	2.6	2.7	2.9	3.2	3.7	3.8	4.4	5.0	5.4
-40 to -20	1.4	1.5	1.7	1.9	2.1	2.3	2.3	2.4	2.6	2.8	3.3	3.4	4.0	4.5	4.8
-60 to -40	1.2	1.2	1.5	1.6	1.8	2.0	2.0	2.1	2.3	2.5	3.0	3.0	3.5	4.0	4.2
-70 to -60	1.0	1.0	1.3	1.4	1.6	1.7	1.8	1.8	2.0	2.2	2.7	2.7	3.2	3.6	3.8

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.14455188E-01
Q1	8.68161861E+01
P2	3.36439492E-02
Q2	3.01414955E-02
P3	4.02866752E-01
Q3	5.82228484E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.9	5.2
Frac. eq. (ref.)	0.8	4.9

Prod. Freq. (A to D)	A
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Similar glass type			
OHARA	-	HOYA	-
CDGM	-	SCHOTT	-

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2019-4-1	Transmittance
2016-4-1	1st edition