

# J-LASFH21

$n_d = 1.953750$

$n_e = 1.960731$

$v_d = 32.33$

$v_e = 32.10$

Glass code (d)
954323
Glass code (e)
961321

Spectral l.	Refractive idx
2.058	1.90266
1.970	1.90434
1.530	1.91250
1.129	1.92116
1.064	1.92297
t	1.92453
s	1.93103
A'	1.935830
r	1.940421
C	1.945145
C'	1.946490
He-Ne	1.947754
D	1.953493
d	1.953750
e	1.960731
F	1.974641
F'	1.976420
g	1.992059
h	2.007313
0.389	2.017019
i	-

Coef. disp. form. (pwr ser.)	
A0	3.67012303E+00
A1	-1.39442893E-02
A2	-1.36361252E-04
A3	4.84434485E-02
A4	9.50687214E-04
A5	1.81807808E-04
A6	-1.62618274E-05
A7	1.33939862E-06
A8	0.00000000E+00

Partial dispersion	
F-C	0.029496
F'-C'	0.029930
C-t	0.020616
C-A'	0.009315
d-C	0.008605
e-C	0.015586
g-d	0.038309
g-F	0.017418
h-g	0.015254
i-g	-
C'-t	0.021961
e-C'	0.014241
F'-e	0.015689
i-F'	-

Relative partial dispersion	
C-t/F-C	0.6989
C-A'/F-C	0.3158
d-C/F-C	0.2917
e-C/F-C	0.5284
g-d/F-C	1.2988
g-F/F-C	0.5905
h-g/F-C	0.5172
i-g/F-C	-
C'-t/F'-C'	0.7337
e-C'/F'-C'	0.4758
F'-e/F'-C'	0.5242
i-F'/F'-C'	-

Deviation of relative partial disp.	
$\Delta PdC$	-0.0001
$\Delta PgF$	0.0004

Internal CC (80%/5%)	
392/354	
Color Code (70%/5%)	
405/355	
CCI	
B	0.00
G	3.14
R	3.30

Thermal properties	
CTE(-30,70) [1E-7/°C]	70
CTE(100,300) [1E-7/°C]	82
Tg [°C]	720
At [°C]	758
StP [°C]	681
AP [°C]	714
SP [°C]	826
Ht condct. [W/m·K]	0.893
Sp. heat [kJ/kg·K]	0.459
Ht diffus. [1E-6 m2/sec]	0.386

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

Mechanical properties	
Knoop hardness	632 (6)
Abrasion hardness	52
Young's mod. [GPa]	128.2
Shear mod. [GPa]	49.1
Poisson's ratio	0.306
Stress optical coef. [1E-5 nm/cm/Pa]	0.87

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	-
290	-
300	-
310	-
320	-
330	-
340	-
350	0.01
360	0.16
370	0.45
380	0.67
390	0.79
400	0.85
420	0.917
440	0.946
460	0.963
480	0.974
500	0.983
550	0.995
600	0.997
650	0.997
700	0.997
800	0.998
900	0.998
1000	0.999
1200	0.999
1400	0.999
1600	0.997
1800	0.987
2000	0.970
2200	0.942
2400	0.83

Specific gravity
5.05

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.)	3.0	3.1	3.5	3.9	4.2	4.5	4.6	4.7	5.2	5.8	7.1	7.3	9.0	11.0	12.4	
60 to 80 (ref.)	2.9	3.1	3.5	3.8	4.1	4.4	4.5	4.6	5.1	5.7	6.9	7.1	8.7	10.6	12.0	
40 to 60	2.9	3.0	3.4	3.7	4.0	4.3	4.4	4.5	4.9	5.5	6.7	6.9	8.4	10.2	11.5	
20 to 40	2.8	2.9	3.3	3.6	3.9	4.2	4.3	4.4	4.8	5.4	6.5	6.7	8.1	9.8	11.0	
0 to 20	2.8	2.9	3.3	3.6	3.8	4.2	4.2	4.3	4.8	5.3	6.4	6.5	7.9	9.5	10.6	
-20 to 0	2.9	3.0	3.3	3.6	3.9	4.2	4.3	4.3	4.7	5.2	6.3	6.4	7.7	9.2	10.2	
-40 to -20	3.0	3.1	3.5	3.7	4.0	4.3	4.3	4.4	4.8	5.3	6.3	6.4	7.6	9.0	9.9	
-60 to -40 (ref.)	3.3	3.4	3.7	3.9	4.2	4.5	4.5	4.6	5.0	5.4	6.4	6.5	7.6	8.9	9.8	
-70 to -60 (ref.)	3.5	3.6	4.0	4.2	4.4	4.7	4.8	4.9	5.2	5.6	6.5	6.7	7.8	8.9	9.8	

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	2.0	2.4	2.7	3.0	3.3	3.4	3.5	4.0	4.6	5.9	6.1	7.7	9.7	11.1	
60 to 80	1.6	1.8	2.2	2.5	2.8	3.1	3.2	3.3	3.8	4.3	5.6	5.8	7.4	9.2	10.6	
40 to 60	1.4	1.5	1.9	2.2	2.5	2.8	2.9	3.0	3.4	4.0	5.2	5.3	6.9	8.6	9.9	
20 to 40	1.2	1.3	1.6	1.9	2.2	2.5	2.6	2.7	3.1	3.6	4.8	4.9	6.4	8.0	9.2	
0 to 20	0.9	1.0	1.4	1.6	1.9	2.2	2.3	2.4	2.8	3.3	4.4	4.5	5.9	7.4	8.5	
-20 to 0	0.7	0.8	1.1	1.4	1.6	1.9	2.0	2.1	2.5	3.0	4.0	4.1	5.4	6.8	7.8	
-40 to -20	0.4	0.5	0.9	1.1	1.4	1.6	1.7	1.8	2.2	2.6	3.6	3.7	4.9	6.2	7.2	
-60 to -40	0.2	0.3	0.6	0.8	1.1	1.3	1.4	1.5	1.8	2.3	3.2	3.3	4.4	5.6	6.5	
-70 to -60	0.0	0.1	0.4	0.6	0.9	1.1	1.2	1.3	1.6	2.0	2.9	3.0	4.0	5.1	5.9	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.17335992E-01
Q1	8.95209969E+01
P2	2.48804348E-02
Q2	5.10731076E-02
P3	4.46088429E-01
Q3	7.16023280E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.8	8.1
Frac. eq. (ref.)	1.9	8.8

Prod. Freq. (A to D)	A
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Similar glass type			
OHARA	S-LAH98	HOYA	TAFD45
CDGM	H-ZLaF89L	SCHOTT	-

2022-7-1	StP, AP, SP
2020-4-1	Similar glass type
2019-4-1	Transmittance