

J-LASFH9A

 $n_d = 1.902650$
 $n_e = 1.908632$
 $v_d = 35.77$
 $v_e = 35.52$

Glass code (d)
903358
Glass code (e)
909355

Spectral l.	Refractive idx
2.058	1.85645
1.970	1.85810
1.530	1.86602
1.129	1.87410
1.064	1.87574
t	1.87715
s	1.88293
A'	1.887140
r	1.891140
C	1.895235
C'	1.896397
He-Ne	1.897488
D	1.902429
d	1.902650
e	1.908632
F	1.920469
F'	1.921975
g	1.935143
h	1.947853
0.389	1.955869
i	1.970835

Coef. disp. form. (pwr ser.)	
A0	3.49725259E+00
A1	-1.37767486E-02
A2	-1.24635517E-04
A3	4.10568814E-02
A4	7.21039098E-04
A5	1.36134140E-04
A6	-1.24733129E-05
A7	9.24974680E-07
A8	0.00000000E+00

Partial dispersion	
F-C	0.025234
F'-C'	0.025578
C-t	0.018087
C-A'	0.008095
d-C	0.007415
e-C	0.013397
g-d	0.032493
g-F	0.014674
h-g	0.012710
i-g	0.035692
C'-t	0.019249
e-C'	0.012235
F'-e	0.013343
i-F'	0.048860

Relative partial dispersion	
C-t/F-C	0.7168
C-A'/F-C	0.3208
d-C/F-C	0.2938
e-C/F-C	0.5309
g-d/F-C	1.2877
g-F/F-C	0.5815
h-g/F-C	0.5037
i-g/F-C	1.4144
C'-t/F'-C'	0.7526
e-C'/F'-C'	0.4783
F'-e/F'-C'	0.5217
i-F'/F'-C'	1.9102

Deviation of relative partial disp.	
ΔPdC	0.0005
ΔPgF	-0.0028

Internal CC (80%/5%)	
381/350	
Color Code (70%/5%)	
390/350	
CCI	
B	0.00
G	1.87
R	1.95

Thermal properties	
CTE(-30,70) [1E-7/°C]	62
CTE(100,300) [1E-7/°C]	80
Tg [°C]	701
At [°C]	738
StP [°C]	658
AP [°C]	689
SP [°C]	798
Ht condct. [W/m·K]	0.846
Sp. heat [kJ/kg·K]	0.457
Ht diffus. [1E-6 m2/sec]	0.377

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	603 (6)
Abrasion hardness	67
Young's mod. [GPa]	123.3
Shear mod. [GPa]	47.3
Poisson's ratio	0.303
Stress optical coef. [1E-5 nm/cm/Pa]	0.97

Internal trans. (10mm)		
λ [nm]	τ	
280	-	
290	-	
300	-	
310	-	
320	-	
330	-	
340	-	
350	0.06	
360	0.33	
370	0.62	
380	0.79	
390	0.87	
400	0.912	
420	0.950	
440	0.967	
460	0.977	
480	0.984	
500	0.989	
550	0.996	
600	0.997	
650	0.997	
700	0.997	
800	0.998	
900	0.999	
1000	0.998	
1200	0.997	
1400	0.994	
1600	0.990	
1800	0.983	
2000	0.963	
2200	0.914	
2400	0.77	

Specific gravity
4.91

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.)	3.3	3.4	3.7	4.1	4.3	4.7	4.7	4.8	5.2	5.7	6.8	6.9	8.2	9.6	10.7	
60 to 80 (ref.)	3.1	3.2	3.6	3.9	4.2	4.5	4.5	4.6	5.0	5.5	6.5	6.6	7.9	9.3	10.3	
40 to 60	2.9	3.1	3.4	3.7	3.9	4.2	4.3	4.4	4.7	5.2	6.1	6.3	7.5	8.8	9.7	
20 to 40	2.8	2.9	3.2	3.5	3.7	4.0	4.1	4.1	4.5	4.9	5.8	6.0	7.1	8.4	9.3	
0 to 20	2.7	2.8	3.1	3.3	3.6	3.8	3.9	4.0	4.3	4.7	5.6	5.7	6.8	8.0	8.8	
-20 to 0	2.6	2.7	3.0	3.2	3.5	3.7	3.8	3.9	4.2	4.6	5.4	5.5	6.5	7.7	8.5	
-40 to -20	2.6	2.7	3.0	3.2	3.4	3.7	3.8	3.8	4.1	4.5	5.3	5.4	6.4	7.4	8.2	
-60 to -40 (ref.)	2.7	2.8	3.1	3.3	3.5	3.8	3.8	3.9	4.2	4.5	5.3	5.4	6.3	7.3	8.0	
-70 to -60 (ref.)	2.9	3.0	3.3	3.5	3.7	3.9	4.0	4.0	4.3	4.6	5.4	5.5	6.3	7.3	8.0	

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	2.1	2.3	2.6	2.9	3.2	3.5	3.6	3.6	4.0	4.5	5.5	5.7	7.0	8.4	9.4	
60 to 80	1.9	2.0	2.3	2.6	2.9	3.2	3.3	3.3	3.7	4.2	5.2	5.3	6.6	7.9	8.9	
40 to 60	1.5	1.6	2.0	2.2	2.5	2.8	2.8	2.9	3.3	3.7	4.7	4.8	6.0	7.3	8.2	
20 to 40	1.2	1.3	1.6	1.8	2.1	2.3	2.4	2.5	2.8	3.3	4.2	4.3	5.4	6.7	7.5	
0 to 20	0.8	0.9	1.2	1.5	1.7	1.9	2.0	2.1	2.4	2.8	3.7	3.8	4.8	6.0	6.8	
-20 to 0	0.5	0.6	0.8	1.1	1.3	1.5	1.6	1.7	2.0	2.4	3.2	3.3	4.3	5.4	6.1	
-40 to -20	0.1	0.2	0.5	0.7	0.9	1.1	1.2	1.2	1.5	1.9	2.7	2.8	3.7	4.7	5.5	
-60 to -40	-0.2	-0.2	0.1	0.3	0.5	0.7	0.8	0.8	1.1	1.4	2.1	2.2	3.1	4.1	4.8	
-70 to -60	-0.5	-0.4	-0.2	0.0	0.2	0.4	0.5	0.5	0.8	1.1	1.8	1.9	2.7	3.6	4.3	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.11954525E-01
Q1	8.21989294E+01
P2	2.00210947E-02
Q2	4.96736613E-02
P3	4.34276646E-01
Q3	7.01617935E-03

Fitting error of disp. form. σ [1E-6]		
	Visible	Infrared
Power ser. eq.	1.0	4.3
Frac. eq. (ref.)	2.6	8.2

Prod. Freq. (A to D)	A
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Similar glass type			
OHARA	S-LAH93	HOYA	TAFD35
CDGM	H-ZLaF4LA	SCHOTT	-

2022-7-1	StP, AP, SP, Similar glass type
2019-4-1	Transmittance
2017-4-1	1st edition