

J-SFH9

$n_d = 1.796310$

$n_e = 1.804568$

$v_d = 22.61$

$v_e = 22.40$

Glass code (d)
796226
Glass code (e)
805224

Spectral l.	Refractive idx
2.058	1.73971
1.970	1.74154
1.530	1.75046
1.129	1.75983
1.064	1.76178
t	1.76347
s	1.77055
A'	1.775859
r	1.781002
C	1.786361
C'	1.787901
He-Ne	1.789352
D	1.796009
d	1.796310
e	1.804568
F	1.821585
F'	1.823822
g	1.844166
h	1.865425
0.389	-
i	-

Coef. disp. form. (pwr ser.)	
A0	3.08187182E+00
A1	-1.53688449E-02
A2	0.00000000E+00
A3	4.03183905E-02
A4	5.73314810E-03
A5	-1.19345000E-03
A6	2.75250207E-04
A7	-2.94456264E-05
A8	1.53252305E-06

Partial dispersion	
F-C	0.035224
F'-C'	0.035921
C-t	0.022889
C-A'	0.010502
d-C	0.009949
e-C	0.018207
g-d	0.047856
g-F	0.022581
h-g	0.021259
i-g	-
C'-t	0.024429
e-C'	0.016667
F'-e	0.019254
i-F'	-

Relative partial dispersion	
C-t/F-C	0.6498
C-A'/F-C	0.2981
d-C/F-C	0.2824
e-C/F-C	0.5169
g-d/F-C	1.3586
g-F/F-C	0.6411
h-g/F-C	0.6035
i-g/F-C	-
C'-t/F'-C'	0.6801
e-C'/F'-C'	0.4640
F'-e/F'-C'	0.5360
i-F'/F'-C'	-

Deviation of relative partial disp.	
ΔPdC	-0.0050
ΔPgF	0.0346

Internal CC (80%/5%)	
421/386	
Color Code (80%/5%)	
475/385	
CCI	
B	0.00
G	8.83
R	9.34

Thermal properties	
CTE(-30,70) [1E-7/°C]	81
CTE(100,300) [1E-7/°C]	101
Tg [°C]	598
At [°C]	640
StP [°C]	552
AP [°C]	586
SP [°C]	697
Ht condct. [W/m·K]	0.796
Sp. heat [kJ/kg·K]	0.666
Ht diffus. [1E-6 m2/sec]	0.361

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	443(4)
Abrasion hardness	325
Young's mod. [GPa]	89.0
Shear mod. [GPa]	35.3
Poisson's ratio	0.260
Stress optical coef. [1E-5 nm/cm/Pa]	2.72

Internal trans. (10mm)		
λ [nm]	τ	
280	-	
290	-	
300	-	
310	-	
320	-	
330	-	
340	-	
350	-	
360	-	
370	-	
380	0.01	
390	0.12	
400	0.41	
420	0.79	
440	0.900	
460	0.936	
480	0.952	
500	0.963	
550	0.978	
600	0.986	
650	0.990	
700	0.993	
800	0.996	
900	0.997	
1000	0.998	
1200	0.999	
1400	0.998	
1600	0.993	
1800	0.977	
2000	0.953	
2200	0.900	
2400	0.84	

Specific gravity	
3.31	

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.)	-1.2	-1.1	-0.7	-0.3	0.0	0.5	0.6	0.7	1.3	2.2	4.1	4.4	7.5	12.0	16.0	
60 to 80 (ref.)	-1.4	-1.2	-0.8	-0.5	-0.2	0.2	0.4	0.5	1.1	1.9	3.7	4.0	7.0	11.3	15.1	
40 to 60	-1.6	-1.4	-1.1	-0.8	-0.4	-0.1	0.1	0.2	0.7	1.5	3.3	3.5	6.3	10.3	13.8	
20 to 40	-1.7	-1.6	-1.3	-1.0	-0.7	-0.3	-0.2	-0.1	0.4	1.1	2.8	3.0	5.7	9.4	12.7	
0 to 20	-1.9	-1.8	-1.5	-1.2	-0.9	-0.5	-0.4	-0.3	0.2	0.8	2.4	2.6	5.1	8.5	11.5	
-20 to 0	-1.9	-1.9	-1.6	-1.3	-1.0	-0.7	-0.6	-0.5	0.0	0.6	2.0	2.2	4.5	7.7	10.4	
-40 to -20	-2.0	-1.9	-1.6	-1.4	-1.1	-0.8	-0.7	-0.6	-0.2	0.4	1.8	1.9	4.0	7.0	9.4	
-60 to -40 (ref.)	-1.9	-1.8	-1.5	-1.3	-1.1	-0.8	-0.7	-0.6	-0.2	0.3	1.6	1.8	3.7	6.3	8.6	
-70 to -60 (ref.)	-1.7	-1.6	-1.4	-1.2	-1.0	-0.7	-0.6	-0.5	-0.1	0.4	1.5	1.7	3.5	5.9	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	-2.3	-2.2	-1.8	-1.4	-1.1	-0.6	-0.5	-0.4	0.2	1.0	3.0	3.3	6.4	10.8	14.8	
60 to 80	-2.5	-2.4	-2.1	-1.7	-1.4	-1.0	-0.9	-0.7	-0.1	0.6	2.5	2.8	5.7	10.0	13.8	
40 to 60	-2.9	-2.8	-2.4	-2.1	-1.8	-1.4	-1.3	-1.2	-0.6	0.1	1.8	2.1	4.9	8.9	12.4	
20 to 40	-3.2	-3.2	-2.8	-2.5	-2.2	-1.9	-1.8	-1.7	-1.1	-0.4	1.2	1.4	4.0	7.7	11.0	
0 to 20	-3.6	-3.5	-3.2	-2.9	-2.7	-2.3	-2.2	-2.1	-1.6	-1.0	0.6	0.8	3.2	6.6	9.6	
-20 to 0	-4.0	-3.9	-3.6	-3.4	-3.1	-2.8	-2.7	-2.6	-2.1	-1.5	-0.1	0.1	2.3	5.5	8.2	
-40 to -20	-4.3	-4.2	-4.0	-3.8	-3.5	-3.2	-3.1	-3.0	-2.6	-2.0	-0.7	-0.5	1.5	4.4	6.8	
-60 to -40	-4.7	-4.6	-4.4	-4.2	-3.9	-3.7	-3.6	-3.5	-3.1	-2.6	-1.4	-1.2	0.7	3.3	5.5	
-70 to -60	-4.9	-4.9	-4.7	-4.5	-4.2	-4.0	-3.9	-3.8	-3.5	-3.0	-1.9	-1.7	0.0	2.4	4.4	

Coef. disp. form. (frac. eq.) (ref.)	
P1	6.61056793E-02
Q1	4.34911247E+01
P2	2.63461513E-02
Q2	7.20513447E-02
P3	3.82646761E-01
Q3	9.31805224E-03

Fitting error of disp. form. σ [1E-6]		
	Visible	Infrared
Power ser. eq.	1.5	9.1
Frac. eq. (ref.)	3.5	33.7

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

-	-
-	-
2023-9-1	1st edition