

J-SFH1HS

 $n_d = 1.808090$
 $n_e = 1.816440$
 $v_d = 22.74$
 $v_e = 22.55$

Glass code (d)
808227
Glass code (e)
816226

Spectral l.	Refractive idx
2.058	1.75156
1.970	1.75327
1.530	1.76173
1.129	1.77098
1.064	1.77295
t	1.77466
s	1.78187
A'	1.787287
r	1.792532
C	1.797989
C'	1.799554
He-Ne	1.801030
D	1.807785
d	1.808090
e	1.816440
F	1.833527
F'	1.835758
g	1.855872
h	1.876462
0.389	1.890157
i	-

Coef. disp. form. (pwr ser.)	
A0	3.11637039E+00
A1	-1.40103252E-02
A2	0.00000000E+00
A3	4.55295459E-02
A4	3.79129507E-03
A5	-5.76203793E-04
A6	1.53793977E-04
A7	-1.65780029E-05
A8	8.81480500E-07

Partial dispersion	
F-C	0.035538
F'-C'	0.036204
C-t	0.023326
C-A'	0.010702
d-C	0.010101
e-C	0.018451
g-d	0.047782
g-F	0.022345
h-g	0.020590
i-g	-
C'-t	0.024891
e-C'	0.016886
F'-e	0.019318
i-F'	-

Relative partial dispersion	
C-t/F-C	0.6564
C-A'/F-C	0.3011
d-C/F-C	0.2842
e-C/F-C	0.5192
g-d/F-C	1.3445
g-F/F-C	0.6288
h-g/F-C	0.5794
i-g/F-C	-
C'-t/F'-C'	0.6875
e-C'/F'-C'	0.4664
F'-e/F'-C'	0.5336
i-F'/F'-C'	-

Deviation of relative partial disp.	
ΔPdC	-0.0032
ΔPgF	0.0226

Internal CC (80%/5%)	
393/370	
Color Code (80%/5%)	
420/370	
CCI	
B	0.00
G	2.34
R	2.49

Thermal properties	
CTE(-30,70) [1E-7/°C]	91
CTE(100,300) [1E-7/°C]	113
Tg [°C]	581
At [°C]	619
StP [°C]	535
AP [°C]	569
SP [°C]	676
Ht condct. [W/m·K]	0.862
Sp. heat [kJ/kg·K]	0.635
Ht diffus. [1E-6 m2/sec]	0.408

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	408 (4)
Abrasion hardness	341
Young's mod. [GPa]	83.0
Shear mod. [GPa]	33.0
Poisson's ratio	0.259
Stress optical coef. [1E-5 nm/cm/Pa]	3.31

Internal trans. (10mm)		
λ [nm]	τ	
280	-	
290	-	
300	-	
310	-	
320	-	
330	-	
340	-	
350	-	
360	-	
370	0.06	
380	0.38	
390	0.73	
400	0.89	
420	0.958	
440	0.972	
460	0.978	
480	0.983	
500	0.987	
550	0.993	
600	0.996	
650	0.996	
700	0.998	
800	0.999	
900	0.999	
1000	0.999	
1200	0.999	
1400	0.997	
1600	0.992	
1800	0.974	
2000	0.957	
2200	0.920	
2400	0.88	

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.)	-3.9	-3.8	-3.6	-3.3	-2.9	-2.6	-2.5	-2.4	-1.8	-1.2	0.4	0.6	3.1	6.4	9.1		
60 to 80 (ref.)	-3.9	-3.9	-3.6	-3.3	-3.0	-2.7	-2.6	-2.5	-2.0	-1.3	0.2	0.4	2.8	6.0	8.6		
40 to 60	-4.0	-4.0	-3.7	-3.4	-3.1	-2.8	-2.7	-2.6	-2.1	-1.5	0.0	0.2	2.4	5.4	7.8		
20 to 40	-4.0	-4.0	-3.7	-3.5	-3.2	-2.9	-2.8	-2.7	-2.2	-1.6	-0.2	0.0	2.1	4.9	7.2		
0 to 20	-4.0	-4.0	-3.8	-3.5	-3.2	-2.9	-2.8	-2.7	-2.3	-1.7	-0.4	-0.2	1.8	4.4	6.5		
-20 to 0	-3.9	-3.9	-3.7	-3.5	-3.2	-2.9	-2.8	-2.7	-2.3	-1.8	-0.5	-0.3	1.6	4.0	5.9		
-40 to -20	-3.8	-3.8	-3.6	-3.3	-3.1	-2.8	-2.7	-2.6	-2.2	-1.7	-0.6	-0.4	1.4	3.7	5.4		
-60 to -40 (ref.)	-3.5	-3.5	-3.4	-3.1	-2.9	-2.6	-2.5	-2.5	-2.1	-1.6	-0.5	-0.3	1.4	3.5	5.0		
-70 to -60 (ref.)	-3.3	-3.3	-3.1	-2.9	-2.6	-2.4	-2.3	-2.2	-1.9	-1.4	-0.3	-0.2	1.4	3.4	4.8		

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	-5.0	-4.9	-4.7	-4.4	-4.0	-3.7	-3.6	-3.5	-3.0	-2.3	-0.8	-0.5	1.9	5.2	7.9		
60 to 80	-5.1	-5.1	-4.8	-4.5	-4.2	-3.9	-3.8	-3.7	-3.2	-2.6	-1.1	-0.8	1.5	4.7	7.3		
40 to 60	-5.3	-5.3	-5.1	-4.8	-4.5	-4.2	-4.1	-4.0	-3.5	-2.9	-1.5	-1.2	1.0	4.0	6.4		
20 to 40	-5.5	-5.5	-5.3	-5.0	-4.7	-4.4	-4.3	-4.2	-3.8	-3.2	-1.9	-1.7	0.5	3.2	5.5		
0 to 20	-5.7	-5.7	-5.5	-5.3	-5.0	-4.7	-4.6	-4.5	-4.1	-3.6	-2.3	-2.1	-0.1	2.5	4.6		
-20 to 0	-6.0	-5.9	-5.7	-5.5	-5.3	-5.0	-4.9	-4.8	-4.4	-3.9	-2.7	-2.5	-0.6	1.8	3.7		
-40 to -20	-6.2	-6.2	-6.0	-5.8	-5.5	-5.2	-5.2	-5.1	-4.7	-4.2	-3.1	-2.9	-1.1	1.1	2.8		
-60 to -40	-6.4	-6.4	-6.2	-6.0	-5.8	-5.5	-5.4	-5.4	-5.0	-4.5	-3.5	-3.3	-1.7	0.4	1.9		
-70 to -60	-6.5	-6.5	-6.4	-6.2	-6.0	-5.7	-5.6	-5.6	-5.2	-4.8	-3.8	-3.6	-2.1	-0.2	1.2		

Coef. disp. form. (frac. eq.) (ref.)	
P1	9.85730452E-02
Q1	6.72412004E+01
P2	3.04158799E-02
Q2	6.53413919E-02
P3	3.82916992E-01
Q3	9.40813164E-03

Fitting error of disp. form. σ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.9	4.3
Frac. eq. (ref.)	4.8	16.9

Prod. Freq. (A to D)	D
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Similar glass type			
OHARA	S-NPH1-W	HOYA	FD225
CDGM	H-ZF71	SCHOTT	-

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2022-7-1	StP, AP, SP, Prod. Freq.
2019-4-1	1st edition