

# 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.	
$\Delta PdC$	-0.0032
$\Delta PgF$	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
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)	
$\lambda$ [nm]	$\tau$
280	0.00
290	0.00
300	0.00
310	0.00
320	0.00
330	0.00
340	0.00
350	0.00
360	0.00
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. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.9	4.3
Frac. eq. (ref.)	4.8	16.9

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

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2019-4-1	1st edition