

# J-SFH4

 $n_d = 1.663820$ 
 $n_e = 1.669520$ 
 $v_d = 27.35$ 
 $v_e = 27.07$ 

Glass code (d)
664274
Glass code (e)
670271

Spectral l.	Refractive idx
2.058	1.62274
1.970	1.62418
1.530	1.63103
1.129	1.63803
1.064	1.63947
t	1.64070
s	1.64580
A'	1.649567
r	1.653178
C	1.656918
C'	1.657989
He-Ne	1.658998
D	1.663612
d	1.663820
e	1.669520
F	1.681192
F'	1.682719
g	1.696531
h	1.710834
0.389	1.720477
i	1.740089

Coef. disp. form. (pwr ser.)	
A0	2.66988350E+00
A1	-9.72056100E-03
A2	-1.78592986E-04
A3	3.30802051E-02
A4	-4.66984185E-04
A5	5.77270500E-04
A6	-7.46804377E-05
A7	5.46919156E-06
A8	0.00000000E+00

Partial dispersion	
F-C	0.024274
F'-C'	0.024730
C-t	0.016216
C-A'	0.007351
d-C	0.006902
e-C	0.012602
g-d	0.032711
g-F	0.015339
h-g	0.014303
i-g	0.043558
C'-t	0.017287
e-C'	0.011531
F'-e	0.013199
i-F'	0.057370

Relative partial dispersion	
C-t/F-C	0.6680
C-A'/F-C	0.3028
d-C/F-C	0.2843
e-C/F-C	0.5192
g-d/F-C	1.3476
g-F/F-C	0.6319
h-g/F-C	0.5892
i-g/F-C	1.7944
C'-t/F'-C'	0.6990
e-C'/F'-C'	0.4663
F'-e/F'-C'	0.5337
i-F'/F'-C'	2.3199

Deviation of relative partial disp.	
$\Delta PdC$	-0.0052
$\Delta PgF$	0.0334

Internal CC (80%/5%)	
405/375	
Color Code (80%/5%)	
425/375	
CCI	
B	0.00
G	4.20
R	4.46

Thermal properties	
CTE(-30,70) [1E-7/°C]	111
CTE(100,300) [1E-7/°C]	143
Tg [°C]	476
At [°C]	520
StP [°C]	-
AP [°C]	-
SP [°C]	-
Ht condct. [W/m·K]	0.807
Sp. heat [kJ/kg·K]	0.745
Ht diffus. [1E-6 m2/sec]	0.375

Chemical properties [class]	
Acid res. (surface)	1
Alkaline detergent res.	1
Climate resistance	1
Water res. (powder)	2
Acid res. (powder)	1

Mechanical properties	
Knoop hardness	343 (3)
Abrasion hardness	509
Young's mod. [GPa]	71.6
Shear mod. [GPa]	28.3
Poisson's ratio	0.266
Stress optical coef. [1E-5 nm/cm/Pa]	2.55

Internal trans. (10mm)		
$\lambda$ [nm]	$\tau$	
280	-	
290	-	
300	-	
310	-	
320	-	
330	-	
340	-	
350	-	
360	-	
370	0.01	
380	0.16	
390	0.48	
400	0.72	
420	0.905	
440	0.953	
460	0.968	
480	0.974	
500	0.978	
550	0.984	
600	0.988	
650	0.991	
700	0.994	
800	0.996	
900	0.998	
1000	0.999	
1200	0.999	
1400	0.999	
1600	0.992	
1800	0.957	
2000	0.908	
2200	0.85	
2400	0.79	

Specific gravity	
2.89	

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.)	-4.6	-4.6	-4.4	-4.0	-3.7	-3.4	-3.3	-3.2	-2.7	-2.1	-0.7	-0.4	1.9	5.0	7.6	
60 to 80 (ref.)	-4.6	-4.5	-4.3	-4.0	-3.7	-3.3	-3.2	-3.2	-2.7	-2.1	-0.7	-0.5	1.7	4.7	7.2	
40 to 60	-4.5	-4.4	-4.2	-3.9	-3.6	-3.3	-3.2	-3.1	-2.7	-2.1	-0.8	-0.6	1.4	4.3	6.6	
20 to 40	-4.3	-4.3	-4.1	-3.8	-3.5	-3.2	-3.1	-3.0	-2.6	-2.1	-0.9	-0.7	1.2	3.9	6.1	
0 to 20	-4.2	-4.1	-3.9	-3.7	-3.4	-3.1	-3.0	-2.9	-2.6	-2.1	-0.9	-0.8	1.1	3.6	5.6	
-20 to 0	-3.9	-3.9	-3.7	-3.5	-3.2	-2.9	-2.9	-2.8	-2.4	-2.0	-0.9	-0.7	1.0	3.3	5.1	
-40 to -20	-3.6	-3.6	-3.4	-3.2	-3.0	-2.7	-2.6	-2.6	-2.2	-1.8	-0.8	-0.7	0.9	3.1	4.8	
-60 to -40 (ref.)	-3.3	-3.3	-3.1	-2.9	-2.6	-2.4	-2.3	-2.2	-1.9	-1.5	-0.6	-0.5	1.0	3.0	4.5	
-70 to -60 (ref.)	-2.9	-2.9	-2.7	-2.5	-2.3	-2.1	-2.0	-1.9	-1.6	-1.2	-0.4	-0.2	1.1	3.0	4.4	

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	-5.7	-5.6	-5.3	-5.1	-4.7	-4.4	-4.3	-4.2	-3.7	-3.1	-1.7	-1.5	0.8	3.9	6.6	
60 to 80	-5.7	-5.7	-5.4	-5.1	-4.8	-4.5	-4.4	-4.3	-3.8	-3.3	-1.9	-1.7	0.5	3.5	6.0	
40 to 60	-5.7	-5.7	-5.4	-5.2	-4.9	-4.6	-4.5	-4.4	-4.0	-3.4	-2.1	-1.9	0.1	3.0	5.3	
20 to 40	-5.7	-5.7	-5.5	-5.2	-5.0	-4.7	-4.6	-4.5	-4.1	-3.6	-2.4	-2.2	-0.3	2.4	4.6	
0 to 20	-5.8	-5.8	-5.5	-5.3	-5.0	-4.8	-4.7	-4.6	-4.2	-3.7	-2.6	-2.5	-0.6	1.8	3.8	
-20 to 0	-5.8	-5.8	-5.6	-5.4	-5.1	-4.9	-4.8	-4.7	-4.4	-3.9	-2.9	-2.7	-1.0	1.3	3.1	
-40 to -20	-5.8	-5.8	-5.7	-5.4	-5.2	-5.0	-4.9	-4.8	-4.5	-4.1	-3.1	-3.0	-1.4	0.7	2.4	
-60 to -40	-5.9	-5.9	-5.7	-5.5	-5.3	-5.0	-5.0	-4.9	-4.6	-4.2	-3.3	-3.2	-1.8	0.2	1.7	
-70 to -60	-5.9	-5.9	-5.7	-5.6	-5.3	-5.1	-5.1	-5.0	-4.7	-4.4	-3.5	-3.4	-2.1	-0.3	1.1	

Coef. disp. form. (frac. eq.) (ref.)	
P1	9.81224168E-02
Q1	6.98916297E+01
P2	1.98027993E-02
Q2	7.20938068E-02
P3	3.38032350E-01
Q3	8.24394223E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	1.5	4.6
Frac. eq. (ref.)	5.0	8.2

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

-	-
-	-
2020-4-1	1st edition