

# J-SF03HS

$n_d = 1.846660$

$n_e = 1.855032$

$v_d = 23.80$

$v_e = 23.61$

Glass code (d)	847238
Glass code (e)	855236

Spectral l.	Refractive idx
2.058	1.79055
1.970	1.79217
1.530	1.80027
1.129	1.80936
1.064	1.81132
t	1.81303
s	1.82027
A'	1.825725
r	1.831009
C	1.836505
C'	1.838080
He-Ne	1.839564
D	1.846354
d	1.846660
e	1.855032
F	1.872084
F'	1.874302
g	1.894197
h	1.914364
0.389	1.927659
i	-

Coef. disp. form. (pwr ser.)	
A0	3.25089291E+00
A1	-1.33244110E-02
A2	0.00000000E+00
A3	4.84040988E-02
A4	3.26383680E-03
A5	-4.01470701E-04
A6	1.16583198E-04
A7	-1.27242455E-05
A8	6.96171808E-07

Partial dispersion	
F-C	0.035579
F'-C'	0.036222
C-t	0.023473
C-A'	0.010780
d-C	0.010155
e-C	0.018527
g-d	0.047537
g-F	0.022113
h-g	0.020167
i-g	-
C'-t	0.025048
e-C'	0.016952
F'-e	0.019270
i-F'	-

Relative partial dispersion	
C-t/F-C	0.6597
C-A'/F-C	0.3030
d-C/F-C	0.2854
e-C/F-C	0.5207
g-d/F-C	1.3361
g-F/F-C	0.6215
h-g/F-C	0.5668
i-g/F-C	-
C'-t/F'-C'	0.6915
e-C'/F'-C'	0.4680
F'-e/F'-C'	0.5320
i-F'/F'-C'	-

Deviation of relative partial disp.	
$\Delta PdC$	-0.0025
$\Delta PgF$	0.0171

Internal CC (80%/5%)	
398/367	

Color Code (70%/5%)	
405/370	

CCI	
B	0.00
G	3.22
R	3.39

Thermal properties	
CTE(-30,70) [1E-7/°C]	81
CTE(100,300) [1E-7/°C]	102
Tg [°C]	615
At [°C]	648
Ht condct. [W/m·K]	0.970
Sp. heat [kJ/kg·K]	0.590
Ht diffus. [1E-6 m2/sec]	0.466

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	492 (5)
Abrasion hardness	179
Young's mod. [GPa]	94.4
Shear mod. [GPa]	37.3
Poisson's ratio	0.266
Stress optical coef. [1E-5 nm/cm/Pa]	2.92

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	0.11
380	0.43
390	0.70
400	0.83
420	0.925
440	0.956
460	0.970
480	0.977
500	0.982
550	0.992
600	0.995
650	0.995
700	0.997
800	0.998
900	0.999
1000	0.998
1200	0.996
1400	0.993
1600	0.990
1800	0.986
2000	0.976
2200	0.953
2400	0.914

Specific gravity	
3.53	

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.)	-0.4	-0.3	0.0	0.4	0.7	1.1	1.2	1.3	1.9	2.7	4.4	4.6	7.1	10.2	12.7
60 to 80 (ref.)	-0.6	-0.4	0.0	0.2	0.5	0.9	1.0	1.1	1.7	2.4	4.1	4.3	6.7	9.6	12.0
40 to 60	-0.7	-0.6	-0.2	0.0	0.3	0.7	0.8	0.9	1.4	2.1	3.7	3.9	6.1	8.9	11.2
20 to 40	-0.9	-0.7	-0.4	-0.1	0.2	0.5	0.6	0.7	1.2	1.8	3.3	3.5	5.6	8.3	10.3
0 to 20	-1.0	-0.8	-0.5	-0.3	0.0	0.3	0.4	0.5	1.0	1.6	3.0	3.2	5.2	7.6	9.6
-20 to 0	-1.0	-0.9	-0.6	-0.3	-0.1	0.2	0.3	0.4	0.9	1.4	2.8	3.0	4.8	7.1	8.9
-40 to -20	-0.9	-0.8	-0.5	-0.3	-0.1	0.2	0.3	0.4	0.8	1.3	2.6	2.8	4.5	6.6	8.2
-60 to -40 (ref.)	-0.8	-0.7	-0.4	-0.2	0.0	0.3	0.4	0.4	0.8	1.4	2.5	2.7	4.3	6.2	7.7
-70 to -60 (ref.)	-0.6	-0.5	-0.2	0.0	0.2	0.4	0.5	0.6	1.0	1.4	2.6	2.7	4.2	6.0	7.4

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	-1.6	-1.4	-1.0	-0.7	-0.4	0.0	0.1	0.2	0.8	1.5	3.2	3.4	5.9	9.0	11.4
60 to 80	-1.8	-1.7	-1.3	-1.0	-0.7	-0.3	-0.2	-0.1	0.4	1.2	2.8	3.0	5.4	8.3	10.7
40 to 60	-2.1	-2.0	-1.6	-1.4	-1.1	-0.7	-0.6	-0.5	0.0	0.7	2.2	2.5	4.7	7.4	9.7
20 to 40	-2.4	-2.3	-2.0	-1.7	-1.4	-1.1	-1.0	-0.9	-0.4	0.2	1.7	1.9	4.0	6.6	8.6
0 to 20	-2.7	-2.6	-2.3	-2.1	-1.8	-1.5	-1.4	-1.3	-0.9	-0.2	1.1	1.3	3.3	5.7	7.6
-20 to 0	-3.1	-2.9	-2.7	-2.4	-2.2	-1.9	-1.8	-1.7	-1.3	-0.7	0.6	0.8	2.6	4.8	6.6
-40 to -20	-3.4	-3.3	-3.0	-2.8	-2.6	-2.3	-2.2	-2.1	-1.7	-1.2	0.0	0.2	1.9	3.9	5.6
-60 to -40	-3.7	-3.6	-3.3	-3.1	-2.9	-2.7	-2.6	-2.5	-2.1	-1.7	-0.5	-0.4	1.2	3.1	4.5
-70 to -60	-3.9	-3.8	-3.6	-3.4	-3.2	-3.0	-2.9	-2.8	-2.5	-2.0	-0.9	-0.8	0.7	2.4	3.8

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.11923941E-01
Q1	8.28410074E+01
P2	3.04841319E-02
Q2	6.23699294E-02
P3	3.97973273E-01
Q3	9.10166610E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.9	6.0
Frac. eq. (ref.)	3.4	11.1

Prod. Freq. (A to D)	A
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Similar glass type			
OHARA	S-TIH53W	HOYA	FDS90-SG
CDGM	H-ZF52GT	SCHOTT	N-SF57HT

2019-4-1	Transmittance
2018-4-1	Similar glass type
2017-4-1	1st edition