

# J-KZFH4

 $n_d = 1.552981$ 
 $n_e = 1.555374$ 
 $v_d = 55.07$ 
 $v_e = 54.85$ 

Glass code (d)
553551
Glass code (e)
555549

Spectral l.	Refractive idx
2.058	1.52623
1.970	1.52769
1.530	1.53428
1.129	1.53978
1.064	1.54074
t	1.54152
s	1.54445
A'	1.546406
r	1.548174
C	1.549923
C'	1.550410
He-Ne	1.550865
D	1.552892
d	1.552981
e	1.555374
F	1.559964
F'	1.560536
g	1.565433
h	1.569990
0.389	1.572780
i	1.577811

Coef. disp. form. (pwr ser.)	
A0	2.37404487E+00
A1	-1.07631771E-02
A2	-1.28642692E-04
A3	1.35709369E-02
A4	2.55765647E-04
A5	-2.23388334E-06
A6	4.91067955E-07
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.010041
F'-C'	0.010126
C-t	0.008404
C-A'	0.003517
d-C	0.003058
e-C	0.005451
g-d	0.012452
g-F	0.005469
h-g	0.004557
i-g	0.012378
C'-t	0.008891
e-C'	0.004964
F'-e	0.005162
i-F'	0.017275

Relative partial dispersion	
C-t/F-C	0.8370
C-A'/F-C	0.3503
d-C/F-C	0.3046
e-C/F-C	0.5429
g-d/F-C	1.2401
g-F/F-C	0.5447
h-g/F-C	0.4538
i-g/F-C	1.2327
C'-t/F'-C'	0.8780
e-C'/F'-C'	0.4902
F'-e/F'-C'	0.5098
i-F'/F'-C'	1.7060

Deviation of relative partial disp.	
$\Delta PdC$	0.0025
$\Delta PgF$	-0.0073

Internal CC (80%/5%)	
335/295	
Color Code (80%/5%)	
345/295	
CCI	
B	0.00
G	0.15
R	0.13

Thermal properties	
CTE(-30,70) [1E-7/°C]	48
CTE(100,300) [1E-7/°C]	63
Tg [°C]	544
At [°C]	594
StP [°C]	489
AP [°C]	532
SP [°C]	691
Ht condct. [W/m·K]	0.934
Sp. heat [kJ/kg·K]	0.737
Ht diffus. [1E-6 m2/sec]	0.484

Chemical properties [class]	
Acid res. (surface)	2
Alkaline detergent res.	3
Climate resistance	2
Water res. (powder)	1
Acid res. (powder)	3

Mechanical properties	
Knoop hardness	409 (4)
Abrasion hardness	67
Young's mod. [GPa]	66.4
Shear mod. [GPa]	26.0
Poisson's ratio	0.275
Stress optical coef. [1E-5 nm/cm/Pa]	3.60

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	-
290	-
300	0.12
310	0.35
320	0.58
330	0.74
340	0.84
350	0.906
360	0.945
370	0.969
380	0.981
390	0.988
400	0.992
420	0.996
440	0.997
460	0.998
480	0.999
500	0.999
550	0.999
600	0.999
650	0.999
700	0.999
800	0.999
900	0.997
1000	0.997
1200	0.998
1400	0.976
1600	0.985
1800	0.975
2000	0.945
2200	0.81
2400	0.59

Specific gravity
2.62

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.)	4.9	4.9	5.0	5.2	5.3	5.4	5.4	5.5	5.6	5.8	6.1	6.1	6.5	6.9	7.2	
60 to 80 (ref.)	4.8	4.8	4.9	5.0	5.1	5.3	5.3	5.3	5.5	5.6	5.9	6.0	6.4	6.7	7.0	
40 to 60	4.7	4.7	4.8	4.9	5.0	5.1	5.1	5.2	5.3	5.4	5.7	5.8	6.2	6.5	6.7	
20 to 40	4.6	4.6	4.7	4.8	4.9	5.0	5.0	5.0	5.1	5.3	5.6	5.6	6.0	6.3	6.5	
0 to 20	4.5	4.5	4.6	4.7	4.8	4.9	4.9	4.9	5.0	5.2	5.4	5.5	5.8	6.1	6.3	
-20 to 0	4.5	4.5	4.5	4.6	4.7	4.8	4.8	4.9	5.0	5.1	5.4	5.4	5.7	6.0	6.2	
-40 to -20	4.5	4.5	4.6	4.7	4.7	4.8	4.9	4.9	5.0	5.1	5.4	5.4	5.7	6.0	6.1	
-60 to -40 (ref.)	4.6	4.6	4.7	4.8	4.8	4.9	5.0	5.0	5.1	5.2	5.4	5.5	5.7	6.0	6.1	
-70 to -60 (ref.)	4.8	4.8	4.8	4.9	5.0	5.1	5.1	5.1	5.2	5.3	5.6	5.6	5.9	6.1	6.2	

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	4.0	4.0	4.1	4.2	4.3	4.4	4.5	4.5	4.6	4.8	5.1	5.2	5.6	5.9	6.2	
60 to 80	3.8	3.8	3.9	4.0	4.1	4.2	4.2	4.3	4.4	4.6	4.9	4.9	5.3	5.7	5.9	
40 to 60	3.5	3.5	3.6	3.7	3.8	3.9	3.9	4.0	4.1	4.2	4.5	4.6	4.9	5.3	5.5	
20 to 40	3.2	3.2	3.3	3.4	3.5	3.6	3.6	3.7	3.8	3.9	4.2	4.2	4.6	4.9	5.1	
0 to 20	3.0	3.0	3.0	3.1	3.2	3.3	3.3	3.4	3.5	3.6	3.9	3.9	4.2	4.5	4.7	
-20 to 0	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.1	3.2	3.3	3.5	3.6	3.9	4.2	4.3	
-40 to -20	2.4	2.4	2.5	2.6	2.7	2.7	2.8	2.8	2.9	3.0	3.2	3.2	3.5	3.8	3.9	
-60 to -40	2.2	2.2	2.2	2.3	2.4	2.4	2.5	2.5	2.6	2.7	2.9	2.9	3.2	3.4	3.6	
-70 to -60	2.0	1.9	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.6	2.7	2.9	3.1	3.3	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.10309099E-01
Q1	6.59547831E+01
P2	3.47235922E-02
Q2	2.40152655E-02
P3	2.79391962E-01
Q3	4.71244161E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.4	4.0
Frac. eq. (ref.)	0.6	6.1

Prod. Freq. (A to D)	B
----------------------	---

Similar glass type			
OHARA	-	HOYA	-
CDGM	-	SCHOTT	-

2022-7-1	StP, AP, SP
2019-4-1	Transmittance
2016-4-1	1st edition