

J-KZFH1

$n_d = 1.612660$

$n_e = 1.615934$

$v_d = 44.46$

$v_e = 44.21$

Glass code (d)
613445
Glass code (e)
616442

Spectral l.	Refractive idx
2.058	1.58013
1.970	1.58175
1.530	1.58914
1.129	1.59556
1.064	1.59672
t	1.59767
s	1.60136
A'	1.603883
r	1.606206
C	1.608532
C'	1.609186
He-Ne	1.609797
D	1.612538
d	1.612660
e	1.615934
F	1.622313
F'	1.623117
g	1.630085
h	1.636718
0.389	1.640855
i	1.648477

Coef. disp. form. (pwr ser.)	
A0	2.54674023E+00
A1	-1.22652610E-02
A2	-1.34279040E-04
A3	1.85970683E-02
A4	5.22959966E-04
A5	-9.93145010E-06
A6	2.37371768E-06
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.013781
F'-C'	0.013931
C-t	0.010858
C-A'	0.004649
d-C	0.004128
e-C	0.007402
g-d	0.017425
g-F	0.007772
h-g	0.006633
i-g	0.018392
C'-t	0.011512
e-C'	0.006748
F'-e	0.007183
i-F'	0.025360

Relative partial dispersion	
C-t/F-C	0.7879
C-A'/F-C	0.3373
d-C/F-C	0.2995
e-C/F-C	0.5371
g-d/F-C	1.2644
g-F/F-C	0.5640
h-g/F-C	0.4813
i-g/F-C	1.3346
C'-t/F'-C'	0.8264
e-C'/F'-C'	0.4844
F'-e/F'-C'	0.5156
i-F'/F'-C'	1.8204

Deviation of relative partial disp.	
ΔPdC	0.0023
ΔPgF	-0.0058

Internal CC (80%/5%)	
348/319	
Color Code (80%/5%)	
355/320	
CCI	
B	0.00
G	0.19
R	0.21

Thermal properties	
CTE(-30,70) [1E-7/°C]	57
CTE(100,300) [1E-7/°C]	70
Tg [°C]	548
At [°C]	600
StP [°C]	500
AP [°C]	537
SP [°C]	679
Ht condct. [W/m·K]	0.991
Sp. heat [kJ/kg·K]	0.738
Ht diffus. [1E-6 m2/sec]	0.479

Chemical properties [class]	
Acid res. (surface)	2
Alkaline detergent res.	2
Climate resistance	2
Water res. (powder)	3
Acid res. (powder)	4

Mechanical properties	
Knoop hardness	580 (6)
Abrasion hardness	133
Young's mod. [GPa]	81.3
Shear mod. [GPa]	32.6
Poisson's ratio	0.249
Stress optical coef. [1E-5 nm/cm/Pa]	3.54

Internal trans. (10mm)	
λ [nm]	τ
280	-
290	-
300	-
310	-
320	0.06
330	0.32
340	0.66
350	0.85
360	0.931
370	0.964
380	0.979
390	0.986
400	0.990
420	0.994
440	0.996
460	0.997
480	0.998
500	0.998
550	0.999
600	0.999
650	0.999
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.977
1600	0.990
1800	0.980
2000	0.951
2200	0.82
2400	0.65

Specific gravity
2.8

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.)	3.5	3.6	3.7	3.8	4.0	4.1	4.1	4.2	4.4	4.6	5.1	5.1	5.7	6.3	6.7	
60 to 80 (ref.)	3.4	3.4	3.6	3.7	3.8	4.0	4.0	4.0	4.2	4.4	4.9	5.0	5.5	6.1	6.5	
40 to 60	3.2	3.3	3.4	3.5	3.7	3.8	3.8	3.9	4.0	4.2	4.7	4.7	5.3	5.8	6.2	
20 to 40	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.7	3.9	4.1	4.5	4.6	5.1	5.6	6.0	
0 to 20	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.6	3.8	4.0	4.4	4.4	4.9	5.4	5.8	
-20 to 0	3.0	3.0	3.2	3.3	3.4	3.5	3.5	3.5	3.7	3.9	4.3	4.3	4.8	5.3	5.6	
-40 to -20	3.0	3.0	3.2	3.3	3.4	3.5	3.5	3.5	3.7	3.9	4.3	4.3	4.8	5.3	5.6	
-60 to -40 (ref.)	3.2	3.2	3.3	3.4	3.5	3.6	3.6	3.6	3.8	4.0	4.3	4.4	4.8	5.3	5.6	
-70 to -60 (ref.)	3.3	3.4	3.5	3.6	3.6	3.7	3.8	3.8	3.9	4.1	4.5	4.5	4.9	5.4	5.7	

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	2.5	2.6	2.7	2.8	3.0	3.1	3.1	3.2	3.4	3.6	4.0	4.1	4.7	5.2	5.6	
60 to 80	2.3	2.4	2.5	2.6	2.7	2.9	2.9	2.9	3.1	3.3	3.8	3.8	4.4	5.0	5.3	
40 to 60	2.0	2.1	2.2	2.3	2.4	2.6	2.6	2.6	2.8	3.0	3.4	3.5	4.0	4.6	4.9	
20 to 40	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.3	2.5	2.7	3.1	3.1	3.6	4.2	4.5	
0 to 20	1.5	1.5	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.3	2.7	2.8	3.3	3.8	4.1	
-20 to 0	1.2	1.2	1.3	1.4	1.5	1.6	1.6	1.7	1.8	2.0	2.4	2.4	2.9	3.4	3.7	
-40 to -20	0.9	0.9	1.0	1.1	1.2	1.3	1.3	1.4	1.5	1.7	2.0	2.1	2.5	3.0	3.3	
-60 to -40	0.6	0.6	0.7	0.8	0.9	1.0	1.0	1.1	1.2	1.3	1.7	1.7	2.2	2.6	2.9	
-70 to -60	0.4	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.9	1.1	1.4	1.5	1.9	2.3	2.6	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.12852557E-01
Q1	6.44828839E+01
P2	1.63091315E-02
Q2	4.47179637E-02
P3	3.23827161E-01
Q3	6.24486335E-03

Fitting error of disp. form. σ [1E-6]		
	Visible	Infrared
Power ser. eq.	1.3	10.3
Frac. eq. (ref.)	1.4	11.8

Prod. Freq. (A to D)	B
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Similar glass type			
OHARA	S-NBM51	HOYA	E-ADF10
CDGM	H-TF3L	SCHOTT	N-KZFS4

2022-7-1	StP, AP, SP
2019-4-1	Transmittance
2015-4-1	Color Code, Similar glass type