

# Q-FKH1S

$n_d = 1.497310$

$n_e = 1.498749$

$v_d = 82.51$

$v_e = 82.10$

Glass code (d)	497825
Glass code (e)	499821

Spectral l.	Refractive idx
2.058	1.48282
1.970	1.48351
1.530	1.48671
1.129	1.48958
1.064	1.49010
t	1.49054
s	1.49222
A'	1.493370
r	1.494423
C	1.495471
C'	1.495764
He-Ne	1.496037
D	1.497256
d	1.497310
e	1.498749
F	1.501498
F'	1.501839
g	1.504744
h	1.507419
0.389	1.509041
i	1.511933

Coef. disp. form. (pwr ser.)	
A0	2.21873981E+00
A1	-5.09428315E-03
A2	-2.14995729E-05
A3	8.37486232E-03
A4	7.95531396E-05
A5	1.36269370E-06
A6	-1.10317618E-08
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.006027
F'-C'	0.006075
C-t	0.004934
C-A'	0.002101
d-C	0.001839
e-C	0.003278
g-d	0.007434
g-F	0.003246
h-g	0.002675
i-g	0.007189
C'-t	0.005227
e-C'	0.002985
F'-e	0.003090
i-F'	0.010094

Relative partial dispersion	
C-t/F-C	0.8186
C-A'/F-C	0.3486
d-C/F-C	0.3051
e-C/F-C	0.5439
g-d/F-C	1.2334
g-F/F-C	0.5386
h-g/F-C	0.4438
i-g/F-C	1.1928
C'-t/F'-C'	0.8604
e-C'/F'-C'	0.4914
F'-e/F'-C'	0.5086
i-F'/F'-C'	1.6616

Deviation of relative partial disp.	
$\Delta PdC$	-0.0093
$\Delta PgF$	0.0327

Internal CC (80%/5%)	
328/270	

Color Code (80%/5%)	
335/270	

CCI	
B	0.00
G	0.11
R	0.08

Thermal properties	
CTE(-30,70) [1E-7/°C]	129
CTE(100,300) [1E-7/°C]	152
Tg [°C]	479
At [°C]	510
Ht condct. [W/m·K]	0.832
Sp. heat [kJ/kg·K]	0.596
diffus. [1E-6 m2/se]	0.361

Chemical properties [class]	
Acid res. (surface)	6
Alkaline detergent res.	4
Climate resistance	1
Water res. (powder)	2
Acid res. (powder)	3

Mechanical properties	
Knoop hardness	391 (4)
Abrasion hardness	449
Young's mod. [GPa]	77.4
Shear mod. [GPa]	29.7
Poisson's ratio	0.302
Stress optical coef. [1E-5 nm/cm/Pa]	0.69

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	0.10
290	0.18
300	0.33
310	0.51
320	0.69
330	0.82
340	0.912
350	0.962
360	0.977
370	0.988
380	0.994
390	0.995
400	0.996
420	0.995
440	0.995
460	0.996
480	0.997
500	0.998
550	0.998
600	0.998
650	0.998
700	0.997
800	0.995
900	0.993
1000	0.995
1200	0.998
1400	0.999
1600	0.995
1800	0.991
2000	0.994
2200	0.988
2400	0.984

Specific gravity	
3.86	

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.)	-7.1	-7.1	-7.1	-7.0	-6.9	-6.9	-6.9	-6.8	-6.8	-6.7	-6.5	-6.5	-6.3	-6.1	-6.0	
60 to 80(ref.)	-7.0	-6.9	-6.9	-6.8	-6.8	-6.7	-6.7	-6.7	-6.6	-6.5	-6.4	-6.4	-6.2	-6.0	-5.9	
40 to 60	-6.7	-6.7	-6.7	-6.6	-6.6	-6.5	-6.5	-6.5	-6.4	-6.3	-6.2	-6.1	-6.0	-5.8	-5.7	
20 to 40	-6.5	-6.5	-6.4	-6.4	-6.3	-6.2	-6.2	-6.2	-6.2	-6.1	-5.9	-5.9	-5.7	-5.6	-5.4	
0 to 20	-6.2	-6.2	-6.1	-6.1	-6.0	-6.0	-5.9	-5.9	-5.9	-5.8	-5.6	-5.6	-5.5	-5.3	-5.2	
-20 to 0	-5.9	-5.9	-5.8	-5.7	-5.7	-5.6	-5.6	-5.6	-5.5	-5.5	-5.3	-5.3	-5.1	-5.0	-4.9	
-40 to -20	-5.5	-5.5	-5.4	-5.3	-5.3	-5.2	-5.2	-5.2	-5.2	-5.1	-4.9	-4.9	-4.8	-4.6	-4.5	
-60 to -40(ref.)	-5.0	-5.0	-4.9	-4.9	-4.8	-4.8	-4.8	-4.7	-4.7	-4.6	-4.5	-4.5	-4.3	-4.2	-4.1	
-70 to -60(ref.)	-4.6	-4.6	-4.5	-4.4	-4.4	-4.3	-4.3	-4.3	-4.3	-4.2	-4.0	-4.0	-3.9	-3.8	-3.7	

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	-8.0	-8.0	-8.0	-7.9	-7.9	-7.8	-7.8	-7.8	-7.7	-7.6	-7.5	-7.4	-7.3	-7.1	-6.9	
60 to 80	-8.0	-8.0	-7.9	-7.8	-7.8	-7.7	-7.7	-7.7	-7.6	-7.6	-7.4	-7.4	-7.2	-7.0	-6.9	
40 to 60	-7.9	-7.9	-7.8	-7.7	-7.7	-7.6	-7.6	-7.6	-7.6	-7.5	-7.3	-7.3	-7.1	-7.0	-6.8	
20~40	-7.8	-7.8	-7.7	-7.6	-7.6	-7.6	-7.5	-7.5	-7.5	-7.4	-7.2	-7.2	-7.1	-6.9	-6.8	
0 to 20	-7.7	-7.7	-7.6	-7.6	-7.5	-7.5	-7.4	-7.4	-7.4	-7.3	-7.2	-7.1	-7.0	-6.8	-6.7	
-20 to 0	-7.6	-7.6	-7.5	-7.5	-7.4	-7.4	-7.4	-7.3	-7.3	-7.2	-7.1	-7.1	-6.9	-6.8	-6.7	
-40 to -20	-7.5	-7.5	-7.4	-7.4	-7.3	-7.3	-7.3	-7.2	-7.2	-7.1	-7.0	-7.0	-6.8	-6.7	-6.6	
-60 to -40	-7.4	-7.4	-7.3	-7.3	-7.2	-7.2	-7.2	-7.2	-7.1	-7.0	-6.9	-6.9	-6.8	-6.7	-6.6	
-70 to -60	-7.3	-7.3	-7.2	-7.2	-7.2	-7.1	-7.1	-7.1	-7.0	-7.0	-6.9	-6.8	-6.7	-6.6	-6.5	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.71008014E-01
Q1	1.98750035E+02
P2	1.18652960E-01
Q2	9.51028518E-03
P3	1.70240596E-01
Q3	1.65237521E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.3	2.3
Frac. eq. (ref.)	0.3	2.3

Prod. Freq. (A to D)	A
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Similar glass type			
OHARA	-	HOYA	-
C.D.G.M	-	SCHOTT	-

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2019-4-1	Transmittance
2018-4-1	1st edition