

# Q-LASFH58S

$n_d = 1.851080$

$n_e = 1.856120$

$v_d = 40.12$

$v_e = 39.88$

Glass code (d)	851401
Glass code (e)	856399

Spectral l.	Refractive idx
2.058	1.80962
1.970	1.81124
1.530	1.81888
1.129	1.82635
1.064	1.82783
t	1.82909
s	1.83417
A'	1.837830
r	1.841276
C	1.844781
C'	1.845773
He-Ne	1.846702
D	1.850893
d	1.851080
e	1.856120
F	1.865992
F'	1.867240
g	1.878051
h	1.888325
0.389	1.894715
i	1.906431

Coef. disp. form. (pwr ser.)	
A0	3.32552726E+00
A1	-1.32706113E-02
A2	-1.49120991E-04
A3	3.39899628E-02
A4	8.11209445E-04
A5	5.79662969E-06
A6	2.35145894E-06
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.021211
F'-C'	0.021467
C-t	0.015694
C-A'	0.006951
d-C	0.006299
e-C	0.011339
g-d	0.026971
g-F	0.012059
h-g	0.010274
i-g	0.028380
C'-t	0.016686
e-C'	0.010347
F'-e	0.011120
i-F'	0.039191

Relative partial dispersion	
C-t/F-C	0.7399
C-A'/F-C	0.3277
d-C/F-C	0.2970
e-C/F-C	0.5346
g-d/F-C	1.2716
g-F/F-C	0.5685
h-g/F-C	0.4844
i-g/F-C	1.3380
C'-t/F'-C'	0.7773
e-C'/F'-C'	0.4820
F'-e/F'-C'	0.5180
i-F'/F'-C'	1.8256

Deviation of relative partial disp.	
$\Delta PdC$	0.0017
$\Delta PgF$	-0.0085

Internal CC (80%/5%)	
368/328	
Color Code (70%/5%)	
375/330	
CCI	
B	0.00
G	1.07
R	1.11

Thermal properties	
CTE(-30,70) [1E-7/°C]	61
CTE(100,300) [1E-7/°C]	76
Tg [°C]	589
At [°C]	631
StP [°C]	548
AP [°C]	579
SP [°C]	695
Ht condct. [W/m·K]	0.846
Sp. heat [kJ/kg·K]	0.444
Ht diffus. [1E-6 m2/sec]	0.379

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

Mechanical properties	
Knoop hardness	611 (6)
Abrasion hardness	63
Young's mod. [GPa]	122.2
Shear mod. [GPa]	47.0
Poisson's ratio	0.301
Stress optical coef. [1E-5 nm/cm/Pa]	1.95

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	-
290	-
300	-
310	-
320	-
330	0.07
340	0.26
350	0.51
360	0.70
370	0.82
380	0.89
390	0.930
400	0.949
420	0.970
440	0.980
460	0.985
480	0.990
500	0.994
550	0.997
600	0.998
650	0.998
700	0.998
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.999
1600	0.997
1800	0.991
2000	0.976
2200	0.940
2400	0.79

Specific gravity	
5.03	

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.)	5.7	5.8	6.0	6.3	6.6	6.8	6.9	7.0	7.4	7.8	8.7	8.8	9.9	11.0	11.7	
60 to 80(ref.)	5.6	5.7	6.0	6.2	6.4	6.7	6.7	6.8	7.2	7.6	8.5	8.6	9.6	10.7	11.4	
40 to 60	5.4	5.5	5.8	6.0	6.2	6.5	6.5	6.6	6.9	7.3	8.2	8.3	9.3	10.3	11.0	
20 to 40	5.3	5.4	5.6	5.8	6.1	6.3	6.4	6.4	6.7	7.1	7.9	8.1	9.0	9.9	10.6	
0 to 20	5.2	5.3	5.5	5.7	5.9	6.2	6.2	6.3	6.6	7.0	7.7	7.8	8.7	9.6	10.2	
-20 to 0	5.2	5.2	5.5	5.7	5.9	6.1	6.2	6.2	6.5	6.9	7.6	7.7	8.5	9.4	9.9	
-40 to -20	5.2	5.3	5.5	5.7	5.9	6.1	6.2	6.2	6.5	6.8	7.5	7.6	8.4	9.2	9.7	
-60 to -40(ref.)	5.3	5.4	5.6	5.8	6.0	6.2	6.3	6.3	6.6	6.9	7.6	7.7	8.4	9.2	9.7	
-70 to -60(ref.)	5.5	5.6	5.8	6.0	6.2	6.4	6.4	6.5	6.7	7.1	7.7	7.8	8.5	9.2	9.7	

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	4.6	4.7	5.0	5.2	5.4	5.7	5.8	5.8	6.2	6.6	7.5	7.6	8.7	9.8	10.5	
60 to 80	4.3	4.4	4.7	4.9	5.2	5.4	5.5	5.6	5.9	6.3	7.2	7.3	8.3	9.4	10.1	
40 to 60	4.0	4.1	4.4	4.6	4.8	5.1	5.1	5.2	5.5	5.9	6.8	6.9	7.8	8.8	9.5	
20~40	3.7	3.8	4.0	4.2	4.5	4.7	4.8	4.8	5.1	5.5	6.3	6.4	7.3	8.3	8.9	
0 to 20	3.4	3.5	3.7	3.9	4.1	4.3	4.4	4.5	4.8	5.1	5.9	6.0	6.8	7.7	8.3	
-20 to 0	3.1	3.1	3.4	3.6	3.7	4.0	4.0	4.1	4.4	4.7	5.4	5.5	6.3	7.2	7.7	
-40 to -20	2.7	2.8	3.0	3.2	3.4	3.6	3.7	3.7	4.0	4.3	5.0	5.1	5.8	6.6	7.1	
-60 to -40	2.4	2.5	2.7	2.9	3.0	3.2	3.3	3.3	3.6	3.9	4.5	4.6	5.4	6.1	6.5	
-70 to -60	2.2	2.3	2.5	2.6	2.8	3.0	3.0	3.1	3.3	3.6	4.2	4.3	5.0	5.7	6.1	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.02240636E-01
Q1	7.31619862E+01
P2	2.59099510E-02
Q2	3.79977305E-02
P3	4.10764462E-01
Q3	6.40344197E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.9	5.4
Frac. eq. (ref.)	0.7	6.4

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

2020-4-1	StP,AP,SP
2019-4-1	Transmittance
2015-4-1	Color Code