

Q-LASFH12S

$n_d = 1.790630$

$n_e = 1.794812$

$v_d = 44.98$

$v_e = 44.74$

Glass code (d)	791450
Glass code (e)	795447

Spectral l.	Refractive idx
2.058	1.75381
1.970	1.75536
1.530	1.76263
1.129	1.76952
1.064	1.77084
t	1.77195
s	1.77638
A'	1.779505
r	1.782423
C	1.785370
C'	1.786201
He-Ne	1.786978
D	1.790475
d	1.790630
e	1.794812
F	1.802946
F'	1.803968
g	1.812782
h	1.821078
0.389	1.826196
i	-

Coef. disp. form. (pwr ser.)	
A0	3.12617289E+00
A1	-1.31750117E-02
A2	-5.65591169E-05
A3	2.74060420E-02
A4	6.35024687E-04
A5	-3.03984369E-06
A6	1.40200840E-06
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.017576
F'-C'	0.017767
C-t	0.013416
C-A'	0.005865
d-C	0.005260
e-C	0.009442
g-d	0.022152
g-F	0.009836
h-g	0.008296
i-g	-
C'-t	0.014247
e-C'	0.008611
F'-e	0.009156
i-F'	-

Relative partial dispersion	
C-t/F-C	0.7633
C-A'/F-C	0.3337
d-C/F-C	0.2993
e-C/F-C	0.5372
g-d/F-C	1.2604
g-F/F-C	0.5596
h-g/F-C	0.4720
i-g/F-C	-
C'-t/F'-C'	0.8019
e-C'/F'-C'	0.4847
F'-e/F'-C'	0.5153
i-F'/F'-C'	-

Deviation of relative partial disp.	
ΔPdC	0.0018
ΔPgF	-0.0093

Internal CC (80%/5%)	
348/303	
Color Code (80%/5%)	
380/305	
CCI	
B	0.00
G	0.49
R	0.51

Thermal properties	
CTE(-30,70) [1E-7/°C]	58
CTE(100,300) [1E-7/°C]	76
Tg [°C]	560
At [°C]	608
StP [°C]	519
AP [°C]	550
SP [°C]	666
Ht condct. [W/m·K]	0.898
Sp. heat [kJ/kg·K]	0.517
Ht diffus. [1E-6 m2/sec]	0.371

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

Mechanical properties	
Knoop hardness	621 (6)
Abrasion hardness	72
Young's mod. [GPa]	119.6
Shear mod. [GPa]	46.0
Poisson's ratio	0.299
Stress optical coef. [1E-5 nm/cm/Pa]	2.20

Internal trans. (10mm)	
λ [nm]	τ
280	-
290	-
300	0.03
310	0.14
320	0.36
330	0.57
340	0.71
350	0.81
360	0.88
370	0.928
380	0.954
390	0.969
400	0.977
420	0.985
440	0.989
460	0.992
480	0.995
500	0.996
550	0.998
600	0.998
650	0.998
700	0.998
800	0.997
900	0.997
1000	0.997
1200	0.998
1400	0.998
1600	0.994
1800	0.985
2000	0.968
2200	0.935
2400	0.77

Specific gravity	
4.68	

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.)	6.6	6.7	6.9	7.2	7.4	7.7	7.7	7.8	8.1	8.4	9.2	9.3	10.1	11.0	11.6	
60 to 80(ref.)	6.5	6.5	6.9	7.1	7.3	7.5	7.6	7.6	7.9	8.3	9.0	9.1	9.9	10.7	11.3	
40 to 60	6.3	6.4	6.7	6.9	7.1	7.3	7.4	7.4	7.7	8.0	8.7	8.8	9.6	10.4	10.9	
20 to 40	6.2	6.3	6.5	6.7	6.9	7.1	7.2	7.3	7.5	7.8	8.5	8.6	9.3	10.1	10.6	
0 to 20	6.1	6.2	6.4	6.6	6.8	7.0	7.1	7.1	7.4	7.7	8.3	8.4	9.1	9.9	10.3	
-20 to 0	6.0	6.1	6.4	6.6	6.8	6.9	7.0	7.1	7.3	7.6	8.2	8.3	9.0	9.7	10.1	
-40 to -20	6.1	6.2	6.4	6.6	6.8	7.0	7.0	7.1	7.3	7.6	8.1	8.2	8.9	9.5	10.0	
-60 to -40(ref.)	6.2	6.3	6.5	6.7	6.9	7.1	7.1	7.2	7.4	7.7	8.2	8.3	8.9	9.5	10.0	
-70 to -60(ref.)	6.4	6.5	6.7	6.9	7.0	7.2	7.3	7.3	7.5	7.8	8.3	8.4	9.0	9.6	10.0	

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	5.5	5.6	5.9	6.1	6.3	6.6	6.6	6.7	7.0	7.3	8.0	8.1	9.0	9.8	10.4	
60 to 80	5.3	5.4	5.6	5.9	6.1	6.3	6.4	6.4	6.7	7.0	7.7	7.8	8.6	9.5	10.0	
40 to 60	5.0	5.0	5.3	5.5	5.7	5.9	6.0	6.1	6.3	6.7	7.3	7.4	8.2	9.0	9.5	
20~40	4.6	4.7	5.0	5.2	5.4	5.6	5.6	5.7	6.0	6.3	6.9	7.0	7.7	8.5	9.0	
0 to 20	4.3	4.4	4.7	4.9	5.0	5.2	5.3	5.3	5.6	5.9	6.5	6.6	7.3	8.0	8.5	
-20 to 0	4.0	4.1	4.3	4.5	4.7	4.9	4.9	5.0	5.2	5.5	6.1	6.2	6.8	7.5	8.0	
-40 to -20	3.7	3.8	4.0	4.2	4.4	4.5	4.6	4.6	4.9	5.1	5.7	5.7	6.4	7.0	7.4	
-60 to -40	3.4	3.5	3.7	3.9	4.0	4.2	4.2	4.3	4.5	4.7	5.3	5.3	5.9	6.5	6.9	
-70 to -60	3.1	3.2	3.4	3.6	3.8	3.9	4.0	4.0	4.2	4.5	4.9	5.0	5.6	6.2	6.5	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.75366360E-01
Q1	1.18044579E+02
P2	5.61572070E-02
Q2	2.51310454E-02
P3	3.58585847E-01
Q3	4.88199048E-03

Fitting error of disp. form. σ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.7	6.8
Frac. eq. (ref.)	0.8	10.7

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

2020-4-1	StP, AP, SP
2019-4-1	Transmittance
2018-4-1	Prod. Freq