

Q-LASFPH2S

$n_d = 1.765437$

$n_e = 1.769334$

$v_d = 46.75$

$v_e = 46.51$

Glass code (d)	765468
Glass code (e)	769465

Spectral l.	Refractive idx
2.058	1.72940
1.970	1.73104
1.530	1.73858
1.129	1.74544
1.064	1.74672
t	1.74780
s	1.75204
A'	1.755003
r	1.757753
C	1.760519
C'	1.761297
He-Ne	1.762025
D	1.765292
d	1.765437
e	1.769334
F	1.776892
F'	1.777840
g	1.786003
h	1.793667
0.389	1.798386
i	1.806941

Coef. disp. form. (pwr ser.)	
A0	3.04304370E+00
A1	-1.30169861E-02
A2	-1.75012562E-04
A3	2.56037330E-02
A4	4.48879136E-04
A5	1.13138900E-05
A6	4.69755261E-07
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.016373
F'-C'	0.016543
C-t	0.012717
C-A'	0.005516
d-C	0.004918
e-C	0.008815
g-d	0.020566
g-F	0.009111
h-g	0.007664
i-g	0.020938
C'-t	0.013495
e-C'	0.008037
F'-e	0.008506
i-F'	0.029101

Relative partial dispersion	
C-t/F-C	0.7767
C-A'/F-C	0.3369
d-C/F-C	0.3004
e-C/F-C	0.5384
g-d/F-C	1.2561
g-F/F-C	0.5565
h-g/F-C	0.4681
i-g/F-C	1.2788
C'-t/F'-C'	0.8158
e-C'/F'-C'	0.4858
F'-e/F'-C'	0.5142
i-F'/F'-C'	1.7591

Deviation of relative partial disp.	
ΔPdC	0.0021
ΔPgF	-0.0095

Internal CC (80%/5%)	
348/282	

Color Code (80%/5%)	
375/285	

CCI	
B	0.00
G	0.32
R	0.33

Thermal properties	
CTE(-30,70) [1E-7/°C]	53
CTE(100,300) [1E-7/°C]	69
Tg [°C]	572
At [°C]	608
Ht condct. [W/m·K]	0.819
Sp. heat [kJ/kg·K]	0.493
diffus. [1E-6 m2/sec]	0.367

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

Mechanical properties	
Knoop hardness	611 (6)
Abrasion hardness	66
Young's mod. [GPa]	113.5
Shear mod. [GPa]	43.6
Poisson's ratio	0.303
Stress optical coef. [1E-5 nm/cm/Pa]	2.43

Internal trans. (10mm)	
λ [nm]	τ
280	0.04
290	0.10
300	0.20
310	0.30
320	0.47
330	0.62
340	0.74
350	0.83
360	0.89
370	0.935
380	0.960
390	0.974
400	0.982
420	0.990
440	0.993
460	0.995
480	0.996
500	0.997
550	0.998
600	0.998
650	0.998
700	0.998
800	0.998
900	0.998
1000	0.998
1200	0.998
1400	0.994
1600	0.990
1800	0.979
2000	0.958
2200	0.89
2400	0.67

Specific gravity	
4.52	

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.)	7.8	7.9	8.1	8.3	8.5	8.8	8.8	8.9	9.2	9.5	10.2	10.3	11.1	11.9	12.4	
60 to 80(ref.)	7.6	7.7	8.0	8.1	8.3	8.5	8.6	8.7	8.9	9.3	9.9	10.0	10.8	11.6	12.1	
40 to 60	7.4	7.5	7.7	7.9	8.1	8.3	8.4	8.4	8.7	9.0	9.6	9.7	10.5	11.2	11.7	
20 to 40	7.2	7.3	7.5	7.7	7.9	8.1	8.1	8.2	8.4	8.7	9.4	9.4	10.2	10.9	11.3	
0 to 20	7.1	7.1	7.4	7.5	7.7	7.9	7.9	8.0	8.2	8.5	9.1	9.2	9.9	10.6	11.0	
-20 to 0	7.0	7.0	7.3	7.4	7.6	7.8	7.8	7.9	8.1	8.4	9.0	9.0	9.7	10.3	10.8	
-40 to -20	7.0	7.0	7.2	7.4	7.5	7.7	7.8	7.8	8.0	8.3	8.8	8.9	9.5	10.2	10.6	
-60 to -40(ref.)	7.0	7.1	7.3	7.4	7.6	7.8	7.8	7.8	8.1	8.3	8.8	8.9	9.5	10.1	10.5	
-70 to -60(ref.)	7.2	7.2	7.4	7.6	7.7	7.9	7.9	8.0	8.2	8.4	8.9	9.0	9.6	10.1	10.5	

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	6.7	6.8	7.1	7.2	7.4	7.7	7.7	7.8	8.1	8.4	9.1	9.2	10.0	10.7	11.3	
60 to 80	6.5	6.5	6.8	7.0	7.1	7.4	7.4	7.5	7.7	8.1	8.7	8.8	9.6	10.3	10.8	
40 to 60	6.1	6.2	6.4	6.6	6.8	6.9	7.0	7.1	7.3	7.6	8.3	8.3	9.1	9.8	10.3	
20~40	5.7	5.8	6.0	6.2	6.4	6.5	6.6	6.6	6.9	7.2	7.8	7.9	8.6	9.3	9.7	
0 to 20	5.4	5.4	5.6	5.8	6.0	6.1	6.2	6.2	6.5	6.8	7.3	7.4	8.1	8.7	9.2	
-20 to 0	5.0	5.0	5.2	5.4	5.6	5.7	5.8	5.8	6.1	6.3	6.9	6.9	7.6	8.2	8.6	
-40 to -20	4.6	4.7	4.9	5.0	5.2	5.3	5.4	5.4	5.6	5.9	6.4	6.5	7.1	7.7	8.1	
-60 to -40	4.3	4.3	4.5	4.6	4.8	4.9	5.0	5.0	5.2	5.5	6.0	6.0	6.6	7.2	7.5	
-70 to -60	4.0	4.0	4.2	4.3	4.5	4.6	4.7	4.7	4.9	5.1	5.6	5.7	6.2	6.8	7.1	

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.07605967E-01
Q1	6.96851002E+01
P2	3.65825717E-02
Q2	2.77552514E-02
P3	3.68566643E-01
Q3	5.42179225E-03

Fitting error of disp. form. σ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.6	5.9
Frac. eq. (ref.)	0.7	5.7

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
2015-4-1	1st edition