

# Q-SF6S

$n_d = 1.803010$

$n_e = 1.810419$

$v_d = 25.53$

$v_e = 25.33$

Glass code (d)	803255
Glass code (e)	810253

Spectral l.	Refractive idx
2.058	1.75204
1.970	1.75358
1.530	1.76123
1.129	1.76962
1.064	1.77140
t	1.77296
s	1.77948
A'	1.784373
r	1.789094
C	1.793991
C'	1.795392
He-Ne	1.796712
D	1.802739
d	1.803010
e	1.810419
F	1.825442
F'	1.827390
g	1.844793
h	1.862304
0.389	1.873765
i	-

Coef. disp. form. (pwr ser.)	
A0	3.11291202E+00
A1	-1.25998729E-02
A2	0.00000000E+00
A3	4.20929946E-02
A4	2.89961240E-03
A5	-3.73431538E-04
A6	9.67592867E-05
A7	-9.85184772E-06
A8	5.06525233E-07

Partial dispersion	
F-C	0.031451
F'-C'	0.031998
C-t	0.021034
C-A'	0.009618
d-C	0.009019
e-C	0.016428
g-d	0.041783
g-F	0.019351
h-g	0.017511
i-g	-
C'-t	0.022435
e-C'	0.015027
F'-e	0.016971
i-F'	-

Relative partial dispersion	
C-t/F-C	0.6688
C-A'/F-C	0.3058
d-C/F-C	0.2868
e-C/F-C	0.5223
g-d/F-C	1.3285
g-F/F-C	0.6153
h-g/F-C	0.5568
i-g/F-C	-
C'-t/F'-C'	0.7011
e-C'/F'-C'	0.4696
F'-e/F'-C'	0.5304
i-F'/F'-C'	-

Deviation of relative partial disp.	
$\Delta PdC$	-0.0020
$\Delta PgF$	0.0138

Internal CC (80%/5%)	
398/363	
Color Code (80%/5%)	
440/365	
CCI	
B	0.00
G	3.24
R	3.41

Thermal properties	
CTE(-30,70) [1E-7/°C]	86
CTE(100,300) [1E-7/°C]	110
Tg [°C]	571
At [°C]	611
StP [°C]	524
AP [°C]	558
SP [°C]	679
Ht condct. [W/m·K]	1.070
Sp. heat [kJ/kg·K]	0.662
Ht diffus. [1E-6 m2/sec]	0.484

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

Mechanical properties	
Knoop hardness	482 (5)
Abrasion hardness	182
Young's mod. [GPa]	119.8
Shear mod. [GPa]	47.4
Poisson's ratio	0.264
Stress optical coef. [1E-5 nm/cm/Pa]	2.95

Internal trans. (10mm)	
$\lambda$ [nm]	$\tau$
280	-
290	-
300	-
310	-
320	-
330	-
340	-
350	-
360	-
370	0.20
380	0.50
390	0.71
400	0.82
420	0.918
440	0.954
460	0.971
480	0.980
500	0.984
550	0.991
600	0.994
650	0.995
700	0.996
800	0.995
900	0.995
1000	0.996
1200	0.998
1400	0.999
1600	0.990
1800	0.975
2000	0.966
2200	0.936
2400	0.89

Specific gravity	
3.34	

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.)	-0.8	-0.7	-0.4	0.0	0.3	0.7	0.8	0.9	1.4	2.1	3.6	3.8	6.0	8.6	10.6	
60 to 80(ref.)	-1.0	-0.8	-0.4	-0.2	0.2	0.5	0.6	0.7	1.2	1.9	3.3	3.6	5.6	8.1	10.0	
40 to 60	-1.1	-1.0	-0.6	-0.3	0.0	0.3	0.4	0.5	1.0	1.6	3.0	3.2	5.1	7.5	9.3	
20 to 40	-1.2	-1.1	-0.7	-0.4	-0.1	0.2	0.3	0.4	0.8	1.4	2.7	2.9	4.7	6.9	8.7	
0 to 20	-1.2	-1.1	-0.8	-0.5	-0.2	0.1	0.2	0.3	0.7	1.2	2.4	2.6	4.3	6.4	8.0	
-20 to 0	-1.2	-1.1	-0.8	-0.5	-0.3	0.0	0.1	0.2	0.6	1.1	2.2	2.4	4.0	5.9	7.5	
-40 to -20	-1.1	-1.1	-0.7	-0.5	-0.2	0.0	0.1	0.2	0.6	1.0	2.1	2.2	3.7	5.5	7.0	
-60 to -40(ref.)	-1.0	-0.9	-0.6	-0.3	-0.1	0.2	0.2	0.3	0.7	1.1	2.0	2.2	3.6	5.3	6.6	
-70 to -60(ref.)	-0.8	-0.7	-0.4	-0.1	0.1	0.3	0.4	0.5	0.8	1.2	2.1	2.2	3.5	5.1	6.4	

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	-1.9	-1.8	-1.4	-1.1	-0.8	-0.4	-0.3	-0.2	0.3	0.9	2.5	2.7	4.8	7.4	9.4	
60 to 80	-2.1	-2.0	-1.7	-1.4	-1.0	-0.7	-0.6	-0.5	0.0	0.6	2.1	2.3	4.4	6.8	8.7	
40 to 60	-2.4	-2.3	-2.0	-1.7	-1.4	-1.0	-0.9	-0.8	-0.4	0.2	1.6	1.8	3.7	6.1	7.9	
20~40	-2.7	-2.6	-2.3	-2.0	-1.7	-1.4	-1.3	-1.2	-0.8	-0.2	1.1	1.3	3.1	5.3	7.0	
0 to 20	-3.0	-2.9	-2.5	-2.3	-2.0	-1.7	-1.6	-1.5	-1.1	-0.6	0.6	0.8	2.4	4.5	6.1	
-20 to 0	-3.2	-3.2	-2.8	-2.6	-2.3	-2.1	-2.0	-1.9	-1.5	-1.0	0.1	0.2	1.8	3.7	5.3	
-40 to -20	-3.5	-3.4	-3.1	-2.9	-2.6	-2.4	-2.3	-2.2	-1.9	-1.4	-0.4	-0.3	1.2	3.0	4.4	
-60 to -40	-3.8	-3.7	-3.4	-3.2	-3.0	-2.7	-2.7	-2.6	-2.3	-1.9	-0.9	-0.8	0.5	2.2	3.5	
-70 to -60	-4.0	-3.9	-3.6	-3.4	-3.2	-3.0	-2.9	-2.9	-2.5	-2.2	-1.3	-1.2	0.1	1.6	2.9	

Coef. disp. form. (frac. eq.) (ref.)	
P1	9.56339875E-02
Q1	7.18831680E+01
P2	2.73999397E-02
Q2	6.14448767E-02
P3	3.85604213E-01
Q3	8.88657407E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.9	5.0
Frac. eq. (ref.)	2.9	15.8

Prod. Freq. (A to D)	C
----------------------	---

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, Prod. Freq