

# Q-LAK52S

$n_d = 1.677980$

$n_e = 1.680924$

$v_d = 54.89$

$v_e = 54.66$

Glass code (d)	678549
Glass code (e)	681547

Spectral l.	Refractive idx
2.058	1.64682
1.970	1.64844
1.530	1.65577
1.129	1.66204
1.064	1.66315
t	1.66407
s	1.66757
A'	1.669931
r	1.672085
C	1.674224
C'	1.674822
He-Ne	1.675380
D	1.677870
d	1.677980
e	1.680924
F	1.686575
F'	1.687280
g	1.693304
h	1.698901
0.389	1.702320
i	1.708466

Coef. disp. form. (pwr ser.)	
A0	2.76405609E+00
A1	-1.26400636E-02
A2	-1.60322951E-04
A3	1.84903089E-02
A4	2.67778201E-04
A5	5.29803264E-06
A6	1.21335917E-07
A7	0.00000000E+00
A8	0.00000000E+00

Partial dispersion	
F-C	0.012351
F'-C'	0.012458
C-t	0.010153
C-A'	0.004293
d-C	0.003756
e-C	0.006700
g-d	0.015324
g-F	0.006729
h-g	0.005597
i-g	0.015162
C'-t	0.010751
e-C'	0.006102
F'-e	0.006356
i-F'	0.021186

Relative partial dispersion	
C-t/F-C	0.8220
C-A'/F-C	0.3476
d-C/F-C	0.3041
e-C/F-C	0.5425
g-d/F-C	1.2407
g-F/F-C	0.5448
h-g/F-C	0.4532
i-g/F-C	1.2276
C'-t/F'-C'	0.8630
e-C'/F'-C'	0.4898
F'-e/F'-C'	0.5102
i-F'/F'-C'	1.7006

Deviation of relative partial disp.	
$\Delta PdC$	0.0021
$\Delta PgF$	-0.0074

Internal CC (80%/5%)	
342/277	

Color Code (80%/5%)	
360/280	

CCI	
B	0.00
G	0.21
R	0.21

Thermal properties	
CTE(-30,70) [1E-7/°C]	59
CTE(100,300) [1E-7/°C]	79
Tg [°C]	559
At [°C]	597
Ht condct. [W/m·K]	0.976
Sp. heat [kJ/kg·K]	0.666
diffus. [1E-6 m2/sec]	0.413

Chemical properties [class]	
Acid res. (surface)	5
Alkaline detergent res.	4
Climate resistance	1
Water res. (powder)	1
Acid res. (powder)	4

Mechanical properties	
Knoop hardness	566 (6)
Abrasion hardness	104
Young's mod. [GPa]	106.9
Shear mod. [GPa]	41.6
Poisson's ratio	0.284
Stress optical coef. [1E-5 nm/cm/Pa]	2.19

Internal trans. (10mm)		
$\lambda$ [nm]	$\tau$	
280	0.06	
290	0.12	
300	0.21	
310	0.34	
320	0.50	
330	0.65	
340	0.78	
350	0.86	
360	0.921	
370	0.954	
380	0.974	
390	0.983	
400	0.989	
420	0.994	
440	0.995	
460	0.997	
480	0.998	
500	0.999	
550	0.999	
600	0.999	
650	0.999	
700	0.998	
800	0.988	
900	0.999	
1000	0.996	
1200	0.999	
1400	0.992	
1600	0.990	
1800	0.979	
2000	0.957	
2200	0.88	
2400	0.66	

Specific gravity	
3.55	

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.)	4.3	4.4	4.5	4.6	4.7	4.9	4.9	4.9	5.1	5.3	5.8	5.8	6.3	6.7	7.0
60 to 80(ref.)	4.2	4.2	4.4	4.5	4.6	4.7	4.8	4.8	5.0	5.2	5.6	5.7	6.1	6.5	6.8
40 to 60	4.1	4.1	4.3	4.4	4.5	4.6	4.6	4.7	4.8	5.0	5.4	5.5	5.9	6.3	6.6
20 to 40	4.0	4.0	4.1	4.2	4.4	4.5	4.5	4.5	4.7	4.9	5.3	5.3	5.8	6.2	6.4
0 to 20	3.9	3.9	4.1	4.2	4.3	4.4	4.4	4.5	4.6	4.8	5.2	5.2	5.6	6.0	6.3
-20 to 0	3.9	3.9	4.1	4.1	4.2	4.4	4.4	4.4	4.6	4.8	5.1	5.2	5.6	5.9	6.2
-40 to -20	3.9	4.0	4.1	4.2	4.3	4.4	4.4	4.5	4.6	4.8	5.1	5.2	5.6	5.9	6.2
-60 to -40(ref.)	4.1	4.1	4.2	4.3	4.4	4.5	4.6	4.6	4.7	4.9	5.2	5.3	5.7	6.0	6.2
-70 to -60(ref.)	4.3	4.3	4.4	4.5	4.6	4.7	4.7	4.8	4.9	5.1	5.4	5.4	5.8	6.1	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	3.3	3.3	3.5	3.6	3.7	3.8	3.9	3.9	4.1	4.3	4.7	4.7	5.2	5.6	5.9
60 to 80	3.1	3.1	3.3	3.4	3.5	3.6	3.6	3.7	3.8	4.0	4.5	4.5	4.9	5.4	5.6
40 to 60	2.8	2.8	3.0	3.1	3.2	3.3	3.3	3.4	3.5	3.7	4.1	4.2	4.6	5.0	5.3
20~40	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.1	3.2	3.4	3.8	3.8	4.3	4.6	4.9
0 to 20	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.8	2.9	3.1	3.5	3.5	3.9	4.3	4.5
-20 to 0	2.0	2.0	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.8	3.1	3.2	3.6	3.9	4.2
-40 to -20	1.7	1.7	1.9	1.9	2.0	2.1	2.2	2.2	2.3	2.5	2.8	2.9	3.2	3.6	3.8
-60 to -40	1.4	1.5	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.2	2.5	2.5	2.9	3.2	3.4
-70 to -60	1.2	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.8	1.9	2.3	2.3	2.6	2.9	3.1

Coef. disp. form. (frac. eq.) (ref.)	
P1	1.18769620E-01
Q1	7.08583056E+01
P2	5.80400344E-02
Q2	1.89171164E-02
P3	3.12263556E-01
Q3	4.30169943E-03

Fitting error of disp. form. $\sigma$ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.4	3.6
Frac. eq. (ref.)	0.4	3.8

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

2019-4-1	Transmittance
2015-4-1	Color Code
2009-9-1	1st edition