Q-LAK53S

n_d = 1.693430 n_e = 1.696531

ν_d = 53.30 ν_e = 53.06

Glass code (d)
693533
Glass code (e)
697531

Spectral l.	Refractive idx
2.058	1.66228
1.970	1.66382
1.530	1.67082
1.129	1.67696
1.064	1.67807
t	1.67900
s	1.68256
A'	1.685007
r	1.687250
C	1.689487
C'	1.690114
He-Ne	1.690699
D	1.693314
d	1.693430
e	1.696531
F	1.702497
F'	1.703241
g	1.709620
h	1.715558
0.389	1.719189
i	1.725726

Partial dispersion	
F-C	0.013010
F'-C'	0.013127
C-t	0.010490
C-A'	0.004480
d-C	0.003943
e-C	0.007044
g-d	0.016190
g-F	0.007123
h-g	0.005938
i-g	0.016106
C'-t	0.011117
e-C'	0.006417
F'-e	0.006710
i-F'	0.022485

Relative partial dispersion	
C-t／F-C	0.8063
C-A'／F-C	0.3444
d-C／F-C	0.3031
e-C／F-C	0.5414
g-d／F-C	1.2444
g-F／F-C	0.5475
h-g／F-C	0.4564
i-g／F-C	1.2380
C'-t／F'-C'	0.8469
e-C'／F'-C'	0.4888
F'-e／F'-C'	0.5112
i-F'／F'-C'	1.7129

Deviation of relative partial disp.	
ΔPdC	0.0018
ΔPgF	−0.0074

Internal CC (80%/5%)
345/289
Color Code (80%/5%)
360/290
CCI

B	0.00
G	0.28
R	0.27

Thermal properties	
CTE(−30,70) [1E-7/℃]	67
CTE(100,300) [1E-7/℃]	88
Tg [℃]	539
At [℃]	578
StP [℃]	496
AP [℃]	526
SP [℃]	638
Ht cndct. [W/m･K]	0.958
Sp. heat [kJ/kg･K]	0.630
Ht diffus. [1E-6 m2/sec]	0.415

Chemical properties [class]	
Acid res. (surface)	5
Alkaline detergent res.	3
Climate resistance	1
Water res. (powder)	1
Acid res. (powder)	4

Mechanical properties	
Knoop hardness	555 (6)
Abrasion hardness	118
Young's mod. [GPa]	108.1
Shear mod. [GPa]	42.0
Poisson's ratio	0.287
Stress optical coef. [1E-5 nm/cm／Pa]	2.12

Internal trans. (10mm)	
λ [nm]	τ
280	0.02
290	0.06
300	0.15
310	0.29
320	0.45
330	0.61
340	0.75
350	0.85
360	0.912
370	0.949
380	0.970
390	0.981
400	0.987
420	0.991
440	0.993
460	0.995
480	0.997
500	0.998
550	0.999
600	0.998
650	0.999
700	0.999
800	0.998
900	0.997
1000	0.998
1200	0.999
1400	0.997
1600	0.994
1800	0.985
2000	0.970
2200	0.920
2400	0.73

Specific gravity
3.66

Coef. disp. form. (pwr ser.)	
A0	2.81181751E+00
A1	−1.18938304E-02
A2	−1.65919133E-04
A3	1.99255052E-02
A4	2.37580562E-04
A5	1.29438052E-05
A6	−1.59492635E-07
A7	0.00000000E+00
A8	0.00000000E+00

Relative Δn/ΔT [1E-6/℃]

Temp. [℃]	1.083	t	s	A'	r	C	C'	He-Ne	d	e	F	F'	g	h	0.389
80 to 90(ref.)	3.6	3.6	3.8	4.0	4.1	4.3	4.3	4.3	4.5	4.7	5.2	5.3	5.9	6.4	6.7
60 to 80(ref.)	3.5	3.6	3.7	3.9	4.0	4.1	4.2	4.2	4.4	4.6	5.1	5.1	5.7	6.2	6.5
40 to 60	3.4	3.4	3.6	3.7	3.9	4.0	4.1	4.1	4.3	4.5	4.9	5.0	5.5	6.0	6.3
20 to 40	3.4	3.4	3.5	3.7	3.8	3.9	4.0	4.0	4.2	4.4	4.8	4.9	5.4	5.9	6.1
0 to 20	3.3	3.3	3.5	3.6	3.7	3.9	3.9	3.9	4.1	4.3	4.7	4.8	5.3	5.7	6.0
−20 to 0	3.3	3.3	3.5	3.6	3.7	3.9	3.9	3.9	4.1	4.3	4.7	4.7	5.2	5.7	5.9
−40 to −20	3.4	3.4	3.6	3.7	3.8	3.9	4.0	4.0	4.1	4.3	4.7	4.8	5.2	5.7	5.9
−60 to −40(ref.)	3.6	3.6	3.7	3.8	4.0	4.1	4.1	4.2	4.3	4.5	4.8	4.9	5.4	5.8	6.0
−70 to −60(ref.)	3.8	3.8	3.9	4.1	4.2	4.3	4.3	4.3	4.5	4.7	5.0	5.1	5.5	5.9	6.1

Absolute Δn/ΔT [1E-6/℃]

Temp. [℃]	1.083	t	s	A'	r	C	C'	He-Ne	d	e	F	F'	g	h	0.389
80 to 90	2.6	2.6	2.8	2.9	3.1	3.2	3.2	3.3	3.5	3.7	4.1	4.2	4.8	5.3	5.6
60 to 80	2.4	2.4	2.6	2.7	2.9	3.0	3.0	3.1	3.3	3.5	3.9	4.0	4.5	5.0	5.3
40 to 60	2.2	2.2	2.3	2.5	2.6	2.7	2.8	2.8	3.0	3.2	3.6	3.7	4.2	4.7	4.9
20～40	1.9	1.9	2.1	2.2	2.3	2.5	2.5	2.5	2.7	2.9	3.3	3.4	3.9	4.3	4.6
0 to 20	1.7	1.7	1.8	1.9	2.1	2.2	2.2	2.3	2.4	2.6	3.0	3.0	3.5	4.0	4.2
−20 to 0	1.4	1.4	1.5	1.7	1.8	1.9	1.9	2.0	2.1	2.3	2.7	2.7	3.2	3.6	3.9
−40 to −20	1.2	1.2	1.3	1.4	1.5	1.6	1.7	1.7	1.8	2.0	2.4	2.4	2.9	3.3	3.5
−60 to −40	0.9	0.9	1.0	1.1	1.3	1.4	1.4	1.4	1.6	1.7	2.1	2.1	2.6	3.0	3.1
−70 to −60	0.7	0.7	0.8	0.9	1.1	1.2	1.2	1.2	1.3	1.5	1.8	1.9	2.3	2.7	2.9

Coef. disp. form. (frac. eq.)(ref.)	
P1	1.16729408E-01
Q1	7.46755288E+01
P2	2.89929132E-02
Q2	2.46983860E-02
P3	3.47592030E-01
Q3	5.29696921E-03

Fitting error of disp. form. σ [1E-6]		
	Visible	Infrared
Power ser. eq.	0.5	9.5
Frac. eq. (ref.)	0.8	9.1

Prod. Freq. (A to D)	A

Similar glass type			
OHARA	−	HOYA	−
C.D.G.M	−	SCHOTT	−

2020-4-1	StP,AP,SP
2019-4-1	Transmittance
2015-4-1	1st edition

HIKARI GLASS CO., LTD.