LYTKARINO OPTICAL GLASS FACTORY, JSC

ЛЗОС LZOS

KF6

glass type

n_e 1.502657	υ_e 56.96	$n_{F'} - n_{C'}$ 0.008825
n_d 1.500579	υ_d 57.21	$n_F - n_C$ 0.008750

Class of bubbles	Viscosity temperature				
	η [Poise]	$10^{14.5}$	10^{13}	10^{10}	10^{8}
2	t [°C]	395	445	565	665

Relative partial dispersion deviations from the 'Normal Line'				
	i – F'	g – F'	F' - e	F' - r
ΔP	-0.013	-0.003	+0.0005	-0.0004
Δ υ_e	-1.4	-0.2	+0.9	+0.5
	i – F	g – F	F – e	F – r
ΔP	-0.013	-0.0002	+0.0006	-0.0001
Δ υ_d	-1.3	-0.1	+1.1	+0.2

Stress optical coefficient B [nm·cm^{-1} / kp·cm^{-2}], λ=550nm	Thermal conductivity			
	-50°C	0°C	+20°C	+50°C
3.00	0.74	0.83	0.86	0.89

Optical density increment on irradiation		
Initial density D_0 [cm^{-1}]	Radiation dose [R]	Optical density increment Δ D [cm^{-1}]
0.037	$1 \cdot 10^4$	0.030
	$1 \cdot 10^5$	0.18

Young's modulus E [kp · mm^{-2}]	Shear modulus G [kp·mm^{-2}]	Coefficient of linear thermal expansion $\alpha_{20/t} \cdot 10^7$ [°C]		Chemical resistance	
				Stain resistance	
				Group	I
6800	2843				
Poisson's ratio μ	Density ρ [g · cm^{-3}]	+20 ÷ -60°C	+20 ÷ +120°C	Weather resistance	
0.196	2.52	62	68	Group	B

Refractive indices		
λ [nm]	n	
312.6	-	-
334.1	-	-
365.0	i	1.52229
404.66	h	1.51543
435.83	g	1.511451
479.99	F'	1.507166
486.13	F	1.506667
546.07	e	1.502657
587.56	d	1.500579
589.29	D	1.500500
643.85	C'	1.498341
656.27	C	1.497917
706.52	r	1.49640
768.2	-	1.49487
852.1	-	1.49319
1013.9	-	1.49069
1128.6	-	1.48924
1395.1	-	1.48622
1529.6	-	1.48472
1813.1	-	1.48141
1970.1	-	1.47942
2249.3	-	1.47550
2325.4	-	1.47434

Refractive indices at laser wavelengths	
λ [nm]	n
350.7	-
356.4	-
488.0	1.50652
514.0	1.50463
520.8	1.50418
530.0	1.50360
568.2	1.50150
632.8	1.49874
647.1	1.49823
694.3	1.49674
890.0	1.49253
1060.0	1.49009

Dispersion coefficients	
$\nu_h = \frac{n_h - 1}{n_i - n_g}$	49.2
$\nu_e = \frac{n_e - 1}{n_{F'} - n_{C'}}$	56.96
$\nu_d = \frac{n_d - 1}{n_F - n_C}$	57.21
$\nu_D = \frac{n_D - 1}{n_F - n_C}$	57.20
$\nu_{1529.6} = \frac{n_{1529.6} - 1}{n_{1013.9} - n_{2249.3}}$	31.9

Relative partial dispersions		
Δ n	$\frac{\Delta n}{n_{F'} - n_{C'}}$	$\frac{\Delta n}{n_F - n_C}$
312.6 – 334.1	-	-
334.1 - i	-	-
i - h	0.777	0.784
h - g	0.4509	0.4547
g – F	0.5421	0.5467
g – F'	0.4856	0.4897
F - e	0.4544	0.4583
F - D	0.6988	0.7048
F' - e	0.5110	0.5153
d - D	0.0090	0.0090
D - C	0.2927	0.2952
e – C'	0.4890	0.4932
e - C	0.5371	0.5417
C' - r	0.220	0.222
C - r	0.172	0.173
r – 852.1	0.364	0.367
852.1 – 1013.9	0.283	0.285
1013.9 – 1128.6	0.165	0.166
1128.6 – 1395.1	0.342	0.345
1395.1 – 1529.6	0.170	0.171
1529.6 – 1813.1	0.375	0.378
1813.1 – 1970.1	0.226	0.228
1970.1 – 2249.3	0.444	0.448
2249.3 – 2325.4	0.132	0.133

Internal transmittance		
λ [nm]	τ_i (s=10mm)	τ_i (s=25mm)
280	-	-
300	0.170	0.012
320	0.555	0.229
340	0.903	0.775
360	0.976	0.941
380	0.978	0.946
400	0.993	0.983
420	0.990	0.975
440	0.989	0.972
460	0.991	0.978
480	0.992	0.980
500	0.994	0.985
520	0.995	0.987
540	0.995	0.987
560	0.995	0.987
580	0.994	0.985
600	0.993	0.983
620	0.992	0.980
640	0.991	0.978
660	0.991	0.978
680	0.992	0.980
700	0.992	0.980
750	0.992	0.980
800	0.991	0.978
900	0.987	0.968
1000	0.984	0.960
1050	0.984	0.960
1100	0.984	0.960
1200	-	-
1300	-	-
1400	-	-
1500	-	-

Radiation resistant analogue glass type-

KF106