Glass Data Sheet

Glass Type	H-3-G1	n_d 1.492	ν_d 64.70	$n_F - n_C$ 0.008

OKAMOTO GLASS Co.,Ltd.

Refractive index		
	λ (nm)	
n_t	1013.98	1.483
n_s	852.11	1.486
n_C	656.27	1.490
n_d	587.56	1.492
n_e	546.07	1.494
n_F	486.13	1.498
n_g	435.84	1.502
n_i	365.02	1.511

Constants of dispersion formula *1	
A_1	3.735042×10^{-1}
B_1	1.696427×10^{-3}
A_2	8.265013×10^{-1}
B_2	1.155644×10^{-2}
A_3	2.895929×10^{-1}
B_3	3.047519×10^{1}

Chemical properties	
Water resistance [Na_2O:mg] *2	0.47
Acid resistance (Powder)	1
Weathering resistance (Surface)	1

Partial dispersion	
n_C-n_t	0.007
n_d-n_C	0.002
n_e-n_C	0.004
n_e-n_d	0.002
n_g-n_d	0.009
n_g-n_F	0.004
n_i-n_g	0.009

Partial dispersion rates	
$\theta_{C,t}$	0.895
$\theta_{d,C}$	0.307
$\theta_{e,C}$	0.548
$\theta_{e,d}$	0.240
$\theta_{g,d}$	1.227
$\theta_{g,F}$	0.535
$\theta_{i,g}$	1.175

Anomalous dispersion	
$\Delta\theta_{g,d}$	-0.003
$\Delta\theta_{g,F}$	-0.002

Mechanical properties		
Young's modulus [GPa]	69	
Bending strength [MPa]	113	
Poisson ratio	0.2	
Vickers hardness Hv [1kgf]	615	
Knoop hardness Hk [Class]	447	4
Abrasion Aa	74	

Thermal properties	
Glass transition point [℃]	490
Deformation point [℃]	575
Strain point [℃]	469
Annealing point [℃]	510
Softening point [℃]	696
Thermal expansion coefficients α[10^{-7}/℃] 30℃～400℃	53
Thermal shock resistance [⊿T]	120
Thermal conductivity [W/m·K]	0.94
Specific heat [J/kg·K]	676

Other properties	
Specific gravity	2.3
Dielectric constant [1MHz]	5.5
Dielectric constant [100MHz]	5.4
Dielectric loss [1MHz]	0.002
Dielectric loss [100MHz]	0.003

Internal transmittance		
λ (nm)	τ 5mm	τ 10mm
300	0.445	0.198
310	0.672	0.452
320	0.830	0.689
330	0.920	0.846
340	0.965	0.931
350	0.975	0.950
360	0.990	0.981
370	0.998	0.996
380	0.991	0.982
390	0.997	0.995
400	0.999	0.998
420	0.998	0.995
440	0.998	0.996
460	0.999	0.998
480	1.000	1.000
500	1.000	1.000
550	1.000	1.000
600	1.000	1.000
650	1.000	1.000
700	1.000	1.000
800	1.000	1.000
900	0.999	0.999
1000	1.000	1.000
1200	1.000	1.000
1400	0.965	0.932
1600	0.993	0.987
1800	0.993	0.985
2000	0.976	0.953

*1 The constants are for the Sellmeier formula shown below.

$$n^2-1=\frac{A_1\lambda^2}{(\lambda^2-B_1)}+\frac{A_2\lambda^2}{(\lambda^2-B_2)}+\frac{A_3\lambda^2}{(\lambda^2-B_3)}$$

*2 JIS R-3502 Powder Method

The technical data in this sheet are reference values, not guaranteed.

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