ガラスレンズ用プレス品硝種
Glass Lens Pressed Blanks

ガラス研磨レンズ用硝種
Glass Polished Lens

推奨硝種
Recommended Glass Type

TAFD34

850-427

$n_d = 1.85033$ $\nu_d = 42.70$ (42.696) $n_F - n_C = 0.019916$
$n_e = 1.85506$ $\nu_e = 42.44$ (42.441) $n_{F'} - n_{C'} = 0.020147$

屈 折 率 Refractive Index

	λ (nm)	
$n_{1529.6}$	1529.60	1.81983
$n_{1128.64}$	1128.64	1.82693
n_t	1013.98	1.82954
n_s	852.11	1.83437
$n_{A'}$	768.195	1.83783
n_r	706.519	1.84109
n_C	656.273	1.84439
$n_{C'}$	643.847	1.84533
n_{633}	632.8	1.84621
n_D	589.294	1.85015
n_d	587.562	1.85033
n_e	546.074	1.85506
n_F	486.133	1.86431
$n_{F'}$	479.991	1.86548
n_g	435.834	1.87555
n_h	404.656	1.88508
n_i	365.015	1.90177

分 散 式 の 定 数 Constants of dispersion formula

A_0	3.3289859
A_1	$-1.3264806 \times 10^{-2}$
A_2	3.1995230×10^{-2}
A_3	7.8100264×10^{-4}
A_4	$-3.3508733 \times 10^{-6}$
A_5	2.1352232×10^{-6}

部 分 分 散 Partial dispersions

$n_C - n_t$	0.014857
$n_d - n_C$	0.005932
$n_F - n_d$	0.013984
$n_g - n_F$	0.011244
$n_{C'} - n_t$	0.015792
$n_e - n_{C'}$	0.009732
$n_{F'} - n_e$	0.010415
$n_g - n_{F'}$	0.010078

部分分散比 Partial dispersion rates

P_{C_t}	0.7460	$P'_{C'\_t}$	0.7838
P_{d_C}	0.2979	$P'_{d\_C'}$	0.2480
P_{e_d}	0.2377	P'_{e_d}	0.2350
P_{F_e}	0.4644	$P'_{F'\_e}$	0.5170
P_{g_F}	0.5646	$P'_{g\_F'}$	0.5002
P_{h_g}	0.4785	P'_{h_g}	0.4730
P_{i_h}	0.8376	P'_{i_h}	0.8280

異常分散性 Anomalous dispersions

ΔP_{C_t}	0.0006
$\Delta P_{C\_A'}$	0.0009
ΔP_{g_d}	−0.0078
ΔP_{g_F}	−0.0069
ΔP_{i_g}	−0.0470

光弾性定数 Photoelastic Constant

B (10^{-12}/Pa)	1.15

比 重 Specific Gravity

d	4.94

化 学 的 性 質 Chemical Properties

D_W	1
D_A	3
T_{Blue}	1
D_{NaOH}	1
D_{STPP}	1
D_0	2
D_H	

熱 的 性 質 Thermal Properties

T_g (℃)	695
T_s (℃)	738
$T_{10^{14.5}}$ (℃)	667
$T_{10^{13}}$ (℃)	690
$T_{10^{7.6}}$ (℃)	773
$\alpha_{-30/+70℃}$ (10^{-7}/℃)	66
$\alpha_{100/300℃}$ (10^{-7}/℃)	82
λ [W/(m·K)]	0.815
C_p [kJ/(kg·K)]	0.473

機 械 的 性 質 Mechanical Properties

H_K	700(7)
F_A	55
E (GPa)	122
G (GPa)	46.6
μ	0.300
σ_b (MPa)	124

内部透過率 Internal Transmittance

λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.931	0.836	0.699
2400	0.961	0.906	0.820
2200	0.990	0.974	0.950
2000	0.994	0.985	0.970
1800	0.998	0.995	0.990
1600	0.999	0.998	0.996
1550	0.999	0.998	0.997
1500	0.999	0.999	0.997
1400	0.999	0.998	0.997
1300	0.999	0.999	0.998
1200	0.999	0.999	0.997
1100	0.999	0.998	0.997
1060	0.999	0.998	0.997
1050	0.999	0.998	0.996
1000	0.999	0.998	0.996
950	0.999	0.998	0.995
900	0.999	0.997	0.994
850	0.999	0.997	0.993
830	0.999	0.997	0.994
800	0.999	0.997	0.995
780	0.999	0.998	0.995
750	0.999	0.998	0.995
700	0.999	0.997	0.994
650	0.999	0.997	0.994
600	0.997	0.993	0.986
550	0.995	0.987	0.973
500	0.998	0.995	0.990
480	0.997	0.993	0.986
460	0.996	0.990	0.980
440	0.995	0.987	0.973
420	0.993	0.982	0.964
400	0.989	0.973	0.946
390	0.985	0.964	0.928
380	0.979	0.949	0.900
370	0.970	0.926	0.857
360	0.952	0.884	0.781
350	0.926	0.824	0.679
340	0.880	0.726	0.527
330	0.790	0.555	0.308
320	0.611	0.291	0.085
310			
300			
290			
280			

着 色 度 Coloration Code

λ80(λ70)/λ5	(370)/320

着 色 度 (内部透過率) Coloration of Internal Transmittance

λτ80/λτ5	362/317

CCI Color Contribution Index

CCI(G)	1.10
CCI(R)	1.14

屈折率の温度係数 dn/dT (×10⁻⁶/℃) Temperature Coefficient of Refractive Index
アッベ数の温度係数 dν/dT (×10⁻³/℃) Temperature Coefficient of Abbe-number

	(℃)	dn/dT										dν/dT	
		n_h	n_g	$n_{F'}$	n_F	n_e	n_d	n_{633}	$n_{C'}$	n_C	n_r	ν_e	ν_d
		404.66	435.84	479.99	486.13	546.07	587.56	632.80	643.85	656.27	706.52	546.07	587.56
dn/dT & dν/dT (rel.)	-40 / -20	7.0	6.2	5.5	5.4	4.8	4.5	4.3	4.2	4.2	4.0	-2.4	-2.4
	-20 / 0	7.0	6.2	5.4	5.4	4.7	4.5	4.2	4.2	4.1	3.9	-2.4	-2.5
	0 / 20	7.0	6.2	5.4	5.4	4.7	4.4	4.2	4.1	4.1	3.9	-2.5	-2.5
	20 / 40	7.1	6.3	5.5	5.4	4.8	4.5	4.2	4.2	4.1	3.9	-2.6	-2.6
	40 / 60	7.2	6.4	5.6	5.5	4.8	4.5	4.3	4.2	4.2	4.0	-2.6	-2.6
	60 / 80	7.3	6.5	5.7	5.6	4.9	4.6	4.3	4.3	4.2	4.0	-2.7	-2.7
	80 / 100	7.5	6.6	5.8	5.7	5.0	4.7	4.4	4.4	4.3	4.1	-2.7	-2.7
	100 / 120	7.7	6.8	5.9	5.8	5.1	4.8	4.5	4.4	4.4	4.2	-2.8	-2.8
	120 / 140	7.8	6.9	6.0	5.9	5.2	4.9	4.6	4.5	4.5	4.3	-2.8	-2.8
	140 / 150	7.9	7.0	6.1	6.0	5.3	5.0	4.7	4.6	4.6	4.4	-2.8	-2.8
dn/dT & dν/dT (abs.)	-40 / -20	4.4	3.6	2.9	2.9	2.3	2.0	1.8	1.7	1.7	1.5	-2.4	-2.4
	-20 / 0	4.8	4.0	3.3	3.2	2.6	2.3	2.1	2.0	2.0	1.8	-2.5	-2.5
	0 / 20	5.1	4.3	3.6	3.5	2.9	2.6	2.4	2.3	2.3	2.1	-2.5	-2.5
	20 / 40	5.4	4.6	3.9	3.8	3.1	2.9	2.6	2.6	2.5	2.3	-2.6	-2.6
	40 / 60	5.7	4.9	4.1	4.0	3.4	3.1	2.9	2.8	2.7	2.6	-2.6	-2.6
	60 / 80	6.0	5.2	4.4	4.3	3.6	3.3	3.1	3.0	3.0	2.8	-2.7	-2.7
	80 / 100	6.3	5.5	4.6	4.5	3.9	3.6	3.3	3.2	3.2	3.0	-2.7	-2.7
	100 / 120	6.6	5.7	4.9	4.8	4.1	3.8	3.5	3.5	3.4	3.2	-2.8	-2.8
	120 / 140	6.9	6.0	5.1	5.0	4.3	4.0	3.7	3.6	3.6	3.4	-2.8	-2.8
	140 / 150	7.1	6.1	5.3	5.2	4.4	4.1	3.8	3.8	3.7	3.5	-2.8	-2.8

線膨張係数 α (×10⁻⁷/℃) Coefficient of Thermal Expansion

(℃)	α
-40 / -30	64
-30 / -20	65
-20 / -10	65
-10 / 0	65
0 / 10	66
10 / 20	66
20 / 30	66
30 / 40	66
40 / 50	66
50 / 60	67
60 / 70	67
70 / 80	67
80 / 90	68
90 / 100	68
100 / 110	69
110 / 120	70
120 / 130	71
130 / 140	72
140 / 150	73

冷却速度による屈折率の変化 Difference of refractive indices by cooling rate

βC	
βd	
βF	
βg	

備 考 Remarks

硝種対照表 Glass Cross Reference Index

	HOYA	SCHOTT	OHARA	HIKARI	SUMITA	CDGM
Glass_Type	TAFD34					
Code	850-427					

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