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

TAFD35L

911-353

$n_d = 1.91082$ $\nu_d = 35.25\ (\ 35.254\ )$ $n_F - n_C = 0.025836$
$n_e = 1.91694$ $\nu_e = 35.01\ (\ 35.007\ )$ $n_{F'} - n_{C'} = 0.026193$

屈 折 率 Refractive Index

	λ (nm)	
$n_{1529.6}$	1529.60	1.87369
$n_{1128.64}$	1128.64	1.88178
n_t	1013.98	1.88485
n_s	852.11	1.89070
$n_{A'}$	768.195	1.89498
n_r	706.519	1.89906
n_C	656.273	1.90324
$n_{C'}$	643.847	1.90442
n_{633}	632.8	1.90554
n_D	589.294	1.91059
n_d	587.562	1.91082
n_e	546.074	1.91694
n_F	486.133	1.92907
$n_{F'}$	479.991	1.93062
n_g	435.834	1.94414
n_h	404.656	1.95724
n_i	365.015	1.98103

分散式の定数 Constants of dispersion formula

A_0	3.5269868
A_1	$-1.4402448 \times 10^{-2}$
A_2	4.0047918×10^{-2}
A_3	1.6950661×10^{-3}
A_4	$-7.3210899 \times 10^{-5}$
A_5	1.0814479×10^{-5}

部 分 分 散 Partial dispersions

$n_C - n_t$	0.018381
$n_d - n_C$	0.007582
$n_F - n_d$	0.018254
$n_g - n_F$	0.015071
$n_{C'} - n_t$	0.019569
$n_e - n_{C'}$	0.012518
$n_{F'} - n_e$	0.013675
$n_g - n_{F'}$	0.013526

部分分散比 Partial dispersion rates

P_{C_t}	0.7114	$P'_{C'\_t}$	0.7471
P_{d_C}	0.2935	$P'_{d\_C'}$	0.2441
P_{e_d}	0.2370	P'_{e_d}	0.2338
P_{F_e}	0.4695	$P'_{F'\_e}$	0.5221
P_{g_F}	0.5833	$P'_{g\_F'}$	0.5164
P_{h_g}	0.5070	P'_{h_g}	0.5001
P_{i_h}	0.9210	P'_{i_h}	0.9084

異常分散性 Anomalous dispersions

ΔP_{C_t}	0.0008
$\Delta P_{C\_A'}$	−0.0001
ΔP_{g_d}	−0.0016
ΔP_{g_F}	−0.0016
ΔP_{i_g}	−0.0010

光弾性定数 Photoelastic Constant

B (10^{-12}/Pa)	1.00

比 重 Specific Gravity

d	4.85

化 学 的 性 質 Chemical Properties

D_W	1
D_A	1
T_{Blue}	1
D_{NaOH}	1
D_{STPP}	1
D_O	1
D_H	

熱 的 性 質 Thermal Properties

T_g (℃)	697
T_s (℃)	744
$T_{10^{14.5}}$ (℃)	670
$T_{10^{13}}$ (℃)	700
$T_{10^{7.6}}$ (℃)	785
$\alpha_{-30/+70℃}$ (10^{-7}/℃)	70
$\alpha_{100/300℃}$ (10^{-7}/℃)	85
λ [W/(m·K)]	0.899
C_p [kJ/(kg·K)]	0.470

機 械 的 性 質 Mechanical Properties

H_K	610(6)
F_A	60
E (GPa)	127
G (GPa)	48.7
μ	0.306
σ_b (MPa)	121

内部透過率 Internal Transmittance

λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.913	0.797	0.635
2400	0.938	0.851	0.725
2200	0.979	0.949	0.900
2000	0.990	0.974	0.949
1800	0.995	0.987	0.974
1600	0.998	0.995	0.990
1550	0.998	0.996	0.991
1500	0.998	0.995	0.990
1400	0.999	0.997	0.994
1300	0.999	0.998	0.996
1200	0.999	0.998	0.996
1100	0.999	0.998	0.996
1060	0.999	0.998	0.996
1050	0.999	0.998	0.996
1000	0.999	0.998	0.995
950	0.999	0.998	0.995
900	0.999	0.997	0.995
850	0.999	0.997	0.994
830	0.999	0.997	0.994
800	0.999	0.998	0.996
780	0.999	0.998	0.996
750	0.999	0.998	0.996
700	0.999	0.997	0.994
650	0.998	0.995	0.990
600	0.995	0.987	0.973
550	0.990	0.974	0.949
500	0.996	0.990	0.981
480	0.995	0.987	0.973
460	0.992	0.981	0.963
440	0.990	0.974	0.949
420	0.985	0.962	0.926
400	0.975	0.938	0.879
390	0.964	0.913	0.833
380	0.944	0.865	0.749
370	0.899	0.767	0.588
360	0.770	0.520	0.271
350	0.521	0.196	0.038
340	0.102		
330			
320			
310			
300			
290			
280			

着 色 度 Coloration Code

$\lambda_{80}(\lambda_{70})/\lambda_5$	(395)/350

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

$\lambda_{\tau 80}/\lambda_{\tau 5}$	385/351

CCI Color Contribution Index

CCI(G)	2.48
CCI(R)	2.70

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	7.5	6.6	5.6	5.5	4.7	4.4	4.1	4.0	4.0	3.8	-1.9	-1.9
	-20 / 0	7.8	6.7	5.8	5.7	4.9	4.5	4.2	4.1	4.1	3.8	-2.0	-2.0
	0 / 20	8.1	7.0	5.9	5.8	5.0	4.6	4.3	4.2	4.2	4.0	-2.1	-2.1
	20 / 40	8.4	7.2	6.1	6.0	5.1	4.7	4.4	4.3	4.3	4.0	-2.2	-2.2
	40 / 60	8.7	7.5	6.3	6.2	5.3	4.9	4.5	4.4	4.4	4.1	-2.3	-2.3
	60 / 80	8.9	7.7	6.5	6.3	5.4	4.9	4.6	4.5	4.4	4.2	-2.4	-2.4
	80 / 100	9.2	7.8	6.6	6.4	5.5	5.0	4.6	4.6	4.5	4.2	-2.5	-2.5
	100 / 120	9.4	8.0	6.7	6.5	5.5	5.0	4.6	4.5	4.5	4.2	-2.6	-2.6
	120 / 140	9.5	8.1	6.7	6.6	5.5	5.0	4.6	4.5	4.4	4.1	-2.7	-2.7
	140 / 150	9.6	8.1	6.7	6.6	5.5	5.0	4.6	4.5	4.4	4.1	-2.7	-2.7
dn/dT & dν/dT (abs.)	-40 / -20	4.9	3.9	3.0	2.9	2.1	1.8	1.5	1.5	1.4	1.2	-1.9	-1.9
	-20 / 0	5.5	4.5	3.5	3.4	2.6	2.3	2.0	1.9	1.9	1.7	-2.0	-2.0
	0 / 20	6.1	5.0	4.0	3.9	3.1	2.7	2.4	2.3	2.3	2.0	-2.1	-2.1
	20 / 40	6.7	5.5	4.4	4.3	3.5	3.1	2.7	2.7	2.6	2.4	-2.2	-2.2
	40 / 60	7.2	5.9	4.8	4.7	3.8	3.4	3.0	3.0	2.9	2.7	-2.3	-2.3
	60 / 80	7.6	6.3	5.1	5.0	4.1	3.6	3.3	3.2	3.1	2.9	-2.4	-2.4
	80 / 100	8.0	6.6	5.4	5.3	4.3	3.8	3.5	3.4	3.3	3.0	-2.5	-2.5
	100 / 120	8.3	6.9	5.6	5.5	4.4	4.0	3.6	3.5	3.4	3.2	-2.6	-2.6
	120 / 140	8.5	7.1	5.8	5.6	4.6	4.1	3.7	3.6	3.5	3.2	-2.7	-2.7
	140 / 150	8.7	7.2	5.8	5.7	4.6	4.1	3.7	3.6	3.5	3.2	-2.7	-2.7

線膨張係数 α (×10^{-7}/℃) Coefficient of Thermal Expansion

(℃)	α
-40 / -30	66
-30 / -20	67
-20 / -10	67
-10 / 0	68
0 / 10	69
10 / 20	70
20 / 30	70
30 / 40	71
40 / 50	71
50 / 60	72
60 / 70	72
70 / 80	73
80 / 90	73
90 / 100	74
100 / 110	74
110 / 120	75
120 / 130	76
130 / 140	76
140 / 150	77

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	TAFD35L		(S-LAH93)	(J-LASFH9A)	K-LaSFn23	H-ZLaF4LA
Code	911-353		(905-350)	(903-358)	911-352	911-353

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