

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

TAFD40L-W

001-255

$n_d = 2.00069$ $\nu_d = 25.46$ (25.457) $n_F - n_C = 0.039309$
 $n_e = 2.00996$ $\nu_e = 25.26$ (25.257) $n_{F'} - n_{C'} = 0.039988$

屈折率 Refractive Index		
	λ (nm)	
$n_{1529.6}$	1529.60	1.94818
$n_{1128.64}$	1128.64	1.95898
n_t	1013.98	1.96318
n_s	852.11	1.97132
$n_{A'}$	768.195	1.97740
n_r	706.519	1.98329
n_c	656.273	1.98941
$n_{c'}$	643.847	1.99116
n_{633}	632.8	1.99282
n_d	589.294	2.00035
n_e	587.562	2.00069
n_e	546.074	2.00996
n_F	486.133	2.02872
$n_{F'}$	479.991	2.03115
n_g	435.834	2.05286
n_h	404.656	2.07473
n_i	365.015	2.11704

部分分散 Partial dispersions	
$n_c - n_t$	0.026231
$n_d - n_c$	0.011282
$n_F - n_d$	0.028027
$n_g - n_F$	0.024138
$n_{c'} - n_t$	0.027983
$n_e - n_{c'}$	0.018797
$n_{F'} - n_e$	0.021191
$n_g - n_{F'}$	0.021707

比重 Specific Gravity	
d	4.44

内部透過率 Internal Transmittance			
λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.932	0.838	0.703
2400	0.951	0.881	0.776
2200	0.982	0.957	0.915
2000	0.992	0.980	0.960
1800	0.996	0.990	0.980
1600	0.998	0.996	0.992
1550	0.999	0.997	0.993
1500	0.998	0.996	0.992
1400	0.999	0.999	0.997
1300	0.999	0.999	0.999
1200	0.999	0.999	0.999
1100	0.999	0.999	0.999
1060	0.999	0.999	0.999
1050	0.999	0.999	0.999
1000	0.999	0.999	0.999
950	0.999	0.999	0.999
900	0.999	0.999	0.999
850	0.999	0.999	0.999
830	0.999	0.999	0.999
800	0.999	0.998	0.996
780	0.999	0.998	0.997
750	0.999	0.998	0.996
700	0.999	0.997	0.995
650	0.999	0.997	0.993
600	0.999	0.996	0.993
550	0.998	0.996	0.991
500	0.997	0.992	0.984
480	0.996	0.990	0.979
460	0.994	0.986	0.972
440	0.992	0.981	0.962
420	0.987	0.967	0.934
400	0.961	0.906	0.821
390	0.913	0.797	0.635
380	0.784	0.545	0.297
370	0.511	0.187	0.035
360	0.077	0.002	
350			
340			
330			
320			
310			
300			
290			
280			

化学的性質 Chemical Properties	
D_w	1
D_A	1
T_{Blue}	1
D_{NaOH}	1
D_{STPP}	1
D_0	1
D_H	

部分分散比 Partial dispersion rates			
$P_{c,t}$	0.6673	$P'_{c,t}$	0.6998
$P_{d,c}$	0.2870	$P'_{d,c}$	0.2383
$P_{e,d}$	0.2357	$P'_{e,d}$	0.2317
$P_{F,e}$	0.4772	$P'_{F,e}$	0.5299
$P_{g,F}$	0.6141	$P'_{g,F}$	0.5428
$P_{h,g}$	0.5565	$P'_{h,g}$	0.5470
$P_{i,h}$	1.0764	$P'_{i,h}$	1.0581

熱的性質 Thermal Properties	
T_g (°C)	705
T_s (°C)	746
$T_{10^{14.5}}$ (°C)	678
$T_{10^{13}}$ (°C)	702
$T_{10^{7.6}}$ (°C)	785
$\alpha_{-30/+70}$ ($10^{-7}/^{\circ}C$)	70
$\alpha_{100/300}$ ($10^{-7}/^{\circ}C$)	87
λ [W/(m·K)]	0.991
C_p [kJ/(kg·K)]	0.530

分散式の定数 Constants of dispersion formula	
A_0	3.8175087
A_1	$-1.9631828 \times 10^{-2}$
A_2	5.3533716×10^{-2}
A_3	5.3690931×10^{-3}
A_4	$-4.8599195 \times 10^{-4}$
A_5	5.3007856×10^{-5}

異常分散性 Anomalous dispersions	
$\Delta P_{c,t}$	0.0024
$\Delta P_{c,A'}$	-0.0023
$\Delta P_{g,d}$	0.0133
$\Delta P_{g,F}$	0.0116
$\Delta P_{i,g}$	0.1173

機械的性質 Mechanical Properties	
H_K	710 (7)
F_A	55
E (GPa)	134
G (GPa)	51.8
μ	0.294
σ_b (MPa)	

光弾性定数 Photoelastic Constant	
B ($10^{-12}/Pa$)	0.80

	(°C)	屈折率の温度係数 dn/dT ($\times 10^{-6}/^{\circ}C$) Temperature Coefficient of Refractive Index											アッベ数の温度係数 $d\nu/dT$ ($\times 10^{-3}/^{\circ}C$) Temperature Coefficient of Abbe-number	
		dn/dT											$d\nu/dT$	
		n_h	n_g	$n_{F'}$	n_F	n_e	n_d	n_{633}	$n_{c'}$	n_c	n_r	ν_e	ν_d	
dn/dT & $d\nu/dT$ (rel.)	-40 / -20	11.7	9.4	7.4	7.2	5.7	5.0	4.5	4.4	4.3	3.9	-1.7	-1.7	
	-20 / 0	12.3	9.8	7.7	7.5	5.9	5.2	4.7	4.6	4.5	4.1	-1.8	-1.8	
	0 / 20	12.9	10.3	8.0	7.8	6.2	5.4	4.9	4.8	4.6	4.2	-1.9	-1.9	
	20 / 40	13.5	10.7	8.4	8.1	6.4	5.6	5.1	4.9	4.8	4.4	-2.0	-2.0	
	40 / 60	14.0	11.1	8.7	8.4	6.6	5.9	5.2	5.1	5.0	4.5	-2.1	-2.1	
	60 / 80	14.6	11.5	9.0	8.7	6.8	6.0	5.4	5.2	5.1	4.6	-2.2	-2.2	
	80 / 100	15.1	11.9	9.2	9.0	7.0	6.2	5.5	5.3	5.2	4.7	-2.3	-2.3	
	100 / 120	15.5	12.2	9.5	9.2	7.2	6.3	5.5	5.4	5.2	4.7	-2.4	-2.4	
	120 / 140	15.9	12.5	9.6	9.4	7.2	6.3	5.6	5.4	5.3	4.7	-2.4	-2.4	
	140 / 150	16.2	12.7	9.7	9.4	7.3	6.3	5.6	5.4	5.2	4.7	-2.5	-2.5	
dn/dT & $d\nu/dT$ (abs.)	-40 / -20	8.9	6.6	4.6	4.4	3.0	2.3	1.8	1.7	1.6	1.3	-1.7	-1.7	
	-20 / 0	9.9	7.4	5.3	5.1	3.6	2.9	2.4	2.3	2.2	1.8	-1.8	-1.8	
	0 / 20	10.8	8.2	6.0	5.8	4.1	3.4	2.9	2.8	2.6	2.3	-1.9	-1.9	
	20 / 40	11.6	8.9	6.6	6.3	4.7	3.9	3.3	3.2	3.1	2.7	-2.0	-2.0	
	40 / 60	12.4	9.5	7.1	6.9	5.1	4.3	3.7	3.6	3.4	3.0	-2.1	-2.1	
	60 / 80	13.1	10.1	7.6	7.3	5.5	4.7	4.0	3.9	3.7	3.3	-2.2	-2.2	
	80 / 100	13.8	10.7	8.0	7.7	5.8	4.9	4.3	4.1	4.0	3.5	-2.3	-2.3	
	100 / 120	14.4	11.1	8.3	8.1	6.1	5.2	4.5	4.3	4.2	3.7	-2.4	-2.4	
	120 / 140	14.9	11.5	8.6	8.3	6.2	5.3	4.6	4.4	4.3	3.8	-2.4	-2.4	
	140 / 150	15.3	11.8	8.8	8.5	6.3	5.4	4.6	4.5	4.3	3.8	-2.5	-2.5	

線膨張係数 α ($\times 10^{-7}/^{\circ}C$) Coefficient of Thermal Expansion	
(°C)	α
-40 / -30	65
-30 / -20	66
-20 / -10	67
-10 / 0	68
0 / 10	69
10 / 20	70
20 / 30	71
30 / 40	72
40 / 50	72
50 / 60	73
60 / 70	74
70 / 80	75
80 / 90	76
90 / 100	77
100 / 110	78
110 / 120	79
120 / 130	80
130 / 140	81
140 / 150	82

着色度 Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	(410)/370
着色度 (内部透過率) Coloration of Internal Transmittance	
$\lambda_{\tau 80}/\lambda_{\tau 5}$	398/371

CCI Color Contribution Index	
CCI (G)	3.19
CCI (R)	3.33

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

備考 Remarks						
硝種対照表 Glass Cross Reference Index						
	HOYA	SCHOTT	OHARA	HIKARI	SUMITA	GDGM
Glass_Type	TAFD40L-W			J-LASFH17HS		H-ZLaF90
Code	001-255			001-255		001-254

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