

TAFD45L

954-323 $n_d = 1.95375$ $\nu_d = 32.32$ (32.317) $n_F - n_C = 0.029512$
 $n_e = 1.96074$ $\nu_e = 32.08$ (32.085) $n_{F'} - n_{C'} = 0.029944$

屈折率 Refractive Index		
	λ (nm)	
$n_{1529.6}$	1529.60	1.91262
$n_{1128.64}$	1128.64	1.92118
n_t	1013.98	1.92454
n_s	852.11	1.93102
$n_{A'}$	768.195	1.93581
n_r	706.519	1.94041
n_C	656.273	1.94513
$n_{C'}$	643.847	1.94648
n_{633}	632.8	1.94775
n_D	589.294	1.95349
n_d	587.562	1.95375
n_e	546.074	1.96074
n_F	486.133	1.97465
$n_{F'}$	479.991	1.97642
n_g	435.834	1.99206
n_h	404.656	2.00731
n_i	365.015	2.03527

分散式の定数 Constants of dispersion formula	
A_0	3.6715088
A_1	$-1.4402693 \times 10^{-2}$
A_2	4.6652775×10^{-2}
A_3	1.9167306×10^{-3}
A_4	$-6.3043119 \times 10^{-5}$
A_5	1.3004923×10^{-5}

部分分散 Partial dispersions	
$n_C - n_t$	0.020597
$n_d - n_C$	0.008616
$n_F - n_d$	0.020896
$n_g - n_F$	0.017411
$n_{C'} - n_t$	0.021944
$n_e - n_{C'}$	0.014255
$n_{F'} - n_e$	0.015689
$n_g - n_{F'}$	0.015632

部分分散比 Partial dispersion rates	
$P_{C,t}$	0.6979
$P_{d,C}$	0.2919
$P_{e,d}$	0.2367
$P_{F,e}$	0.4713
$P_{g,F}$	0.5900
$P_{h,g}$	0.5167
$P_{i,h}$	0.9476
$P'_{C,t}$	0.7328
$P'_{d,C}$	0.2428
$P'_{e,d}$	0.2333
$P'_{F,e}$	0.5239
$P'_{g,F}$	0.5220
$P'_{h,g}$	0.5092
$P'_{i,h}$	0.9339

異常分散性 Anomalous dispersions	
$\Delta P_{C,t}$	0.0010
$\Delta P_{d,C}$	-0.0002
$\Delta P_{g,d}$	-0.0001
$\Delta P_{g,F}$	-0.0002
$\Delta P_{i,g}$	0.0094

光弾性定数 Photoelastic Constant	
B ($10^{-12}/\text{Pa}$)	0.95

比重 Specific Gravity	
d	4.96

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	

熱的性質 Thermal Properties	
T_g (°C)	707
T_s (°C)	752
$T_{10^{14.5}}$ (°C)	686
$T_{10^{13}}$ (°C)	708
$T_{10^{7.6}}$ (°C)	790
α -30/+70°C ($10^{-7}/^\circ\text{C}$)	71
α 100/300°C ($10^{-7}/^\circ\text{C}$)	87
λ [W/(m·K)]	0.850
C_p [kJ/(kg·K)]	0.473

機械的性質 Mechanical Properties	
H_K	695 (7)
F_A	55
E (GPa)	129
G (GPa)	49.2
μ	0.304
σ_b (MPa)	

内部透過率 Internal Transmittance			
λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.943	0.864	0.747
2400	0.964	0.913	0.834
2200	0.990	0.975	0.950
2000	0.996	0.989	0.978
1800	0.999	0.997	0.993
1600	0.999	0.999	0.999
1550	0.999	0.999	0.999
1500	0.999	0.999	0.999
1400	0.999	0.999	0.999
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	0.999	0.999
780	0.999	0.999	0.999
750	0.999	0.999	0.999
700	0.999	0.999	0.999
650	0.999	0.999	0.997
600	0.996	0.989	0.979
550	0.990	0.975	0.951
500	0.997	0.993	0.987
480	0.996	0.989	0.979
460	0.994	0.984	0.968
440	0.990	0.975	0.951
420	0.983	0.959	0.919
400	0.968	0.923	0.851
390	0.952	0.885	0.783
380	0.922	0.816	0.666
370	0.856	0.679	0.461
360	0.697	0.405	0.164
350			
340			
330			
320			
310			
300			
290			
280			

屈折率の温度係数 dn/dT ($\times 10^{-6}/^\circ\text{C}$) Temperature Coefficient of Refractive Index											
アッペ数の温度係数 $d\nu/dT$ ($\times 10^{-3}/^\circ\text{C}$) Temperature Coefficient of Abbe-number											
	(°C)	dn/dT									
		n_h	n_g	$n_{F'}$	n_F	n_e	n_d	n_{633}	$n_{C'}$	n_C	n_r
dn/dT & $d\nu/dT$ (rel.)	-40 / -20	8.7	7.4	6.1	5.9	4.9	4.5	4.1	4.0	3.9	3.6
	-20 / 0	8.8	7.4	6.1	6.0	4.9	4.4	4.0	4.0	3.9	3.6
	0 / 20	9.0	7.5	6.2	6.0	4.9	4.4	4.0	4.0	3.9	3.6
	20 / 40	9.2	7.7	6.3	6.1	5.0	4.5	4.1	4.0	3.9	3.6
	40 / 60	9.4	7.8	6.4	6.2	5.1	4.6	4.1	4.0	3.9	3.6
	60 / 80	9.6	8.0	6.5	6.4	5.2	4.6	4.2	4.1	4.0	3.7
	80 / 100	9.8	8.2	6.6	6.5	5.2	4.7	4.2	4.1	4.0	3.7
	100 / 120	10.0	8.3	6.7	6.6	5.3	4.7	4.2	4.1	4.0	3.7
	120 / 140	10.2	8.4	6.8	6.6	5.3	4.7	4.3	4.2	4.1	3.7
	140 / 150	10.3	8.5	6.9	6.7	5.4	4.8	4.3	4.2	4.1	3.7
dn/dT & $d\nu/dT$ (abs.)	-40 / -20	5.9	4.6	3.4	3.2	2.3	1.8	1.4	1.4	1.3	1.0
	-20 / 0	6.5	5.1	3.8	3.7	2.6	2.2	1.8	1.7	1.6	1.3
	0 / 20	6.9	5.5	4.2	4.0	3.0	2.5	2.1	2.0	1.9	1.6
	20 / 40	7.4	5.9	4.5	4.4	3.3	2.8	2.4	2.3	2.2	1.9
	40 / 60	7.8	6.3	4.9	4.7	3.6	3.1	2.6	2.5	2.4	2.1
	60 / 80	8.2	6.6	5.1	5.0	3.8	3.3	2.8	2.8	2.7	2.3
	80 / 100	8.6	6.9	5.4	5.2	4.0	3.5	3.0	2.9	2.8	2.5
	100 / 120	8.9	7.2	5.6	5.5	4.2	3.7	3.2	3.1	3.0	2.6
	120 / 140	9.2	7.4	5.8	5.7	4.4	3.8	3.3	3.2	3.1	2.7
	140 / 150	9.4	7.6	6.0	5.8	4.5	3.9	3.4	3.3	3.2	2.8

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

着色度 Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	(405)/355
着色度 (内部透過率) Coloration of Internal Transmittance	
$\lambda_{\tau 80}/\lambda_{\tau 5}$	392/354

CCI Color Contribution Index	
CCI (G)	3.05
CCI (R)	3.20

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	CDGM
Glass_Type	TAFD45L		S-LAH98	J-LASFH21		H-ZLaF89L
Code	954-323		954-323	954-323		954-323
Excel File Name : HOYA20250701M.xlsm						