

LAF45

614-443 $n_d = 1.61396$ $\nu_d = 44.29$ (44.294) $n_F - n_C = 0.013861$
 $n_e = 1.61725$ $\nu_e = 44.05$ (44.055) $n_{F'} - n_{C'} = 0.014011$

屈折率 Refractive Index		
	λ (nm)	
$n_{1529.6}$	1529.60	1.59025
$n_{1128.64}$	1128.64	1.59670
n_t	1013.98	1.59884
n_s	852.11	1.60256
$n_{A'}$	768.195	1.60511
n_r	706.519	1.60746
n_C	656.273	1.60980
$n_{C'}$	643.847	1.61046
n_{633}	632.8	1.61108
n_D	589.294	1.61383
n_d	587.562	1.61396
n_e	546.074	1.61725
n_F	486.133	1.62366
$n_{F'}$	479.991	1.62447
n_g	435.834	1.63147
n_h	404.656	1.63812
n_i	365.015	1.64991

分散式の定数 Constants of dispersion formula	
A_0	2.5507417
A_1	$-1.2806660 \times 10^{-2}$
A_2	1.8744935×10^{-2}
A_3	5.0796407×10^{-4}
A_4	$-7.2866070 \times 10^{-6}$
A_5	2.1911277×10^{-6}

部分分散 Partial dispersions	
$n_C - n_t$	0.010963
$n_d - n_C$	0.004156
$n_F - n_d$	0.009705
$n_g - n_F$	0.007807
$n_{C'} - n_t$	0.011621
$n_e - n_{C'}$	0.006791
$n_{F'} - n_e$	0.007220
$n_g - n_{F'}$	0.006999

部分分散比 Partial dispersion rates			
$P_{C,t}$	0.7909	$P'_{C',t}$	0.8294
$P_{d,C}$	0.2998	$P'_{d,C'}$	0.2497
$P_{e,d}$	0.2376	$P'_{e,d}$	0.2350
$P_{F,e}$	0.4626	$P'_{F',e}$	0.5153
$P_{g,F}$	0.5632	$P'_{g,F'}$	0.4995
$P_{h,g}$	0.4802	$P'_{h,g}$	0.4751
$P_{i,h}$	0.8504	$P'_{i,h}$	0.8413

異常分散性 Anomalous dispersions	
$\Delta P_{C,t}$	0.0381
$\Delta P_{C,A'}$	0.0075
$\Delta P_{g,d}$	-0.0075
$\Delta P_{g,F}$	-0.0054
$\Delta P_{i,g}$	-0.0184

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

比重 Specific Gravity	
d	2.91

化学的性質 Chemical Properties	
D_W	3
D_A	4
T_{Blue}	5
D_{NaOH}	1
D_{STPP}	1
D_0	4
D_H	

熱的性質 Thermal Properties	
T_g (°C)	546
T_s (°C)	600
$T_{10^{14.5}}$ (°C)	512
$T_{10^{13}}$ (°C)	542
$T_{10^{7.6}}$ (°C)	662
α -30/+70°C ($10^{-7}/^\circ\text{C}$)	56
α 100/300°C ($10^{-7}/^\circ\text{C}$)	67
λ [W/(m·K)]	0.859
C_p [kJ/(kg·K)]	0.708

機械的性質 Mechanical Properties	
H_K	515 (5)
F_A	90
E (GPa)	75
G (GPa)	29.9
μ	0.250
σ_b (MPa)	98

内部透過率 Internal Transmittance			
λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.877	0.721	0.519
2400	0.908	0.786	0.618
2200	0.960	0.902	0.814
2000	0.989	0.973	0.946
1800	0.996	0.989	0.978
1600	0.998	0.994	0.988
1550	0.998	0.994	0.988
1500	0.997	0.993	0.986
1400	0.995	0.987	0.974
1300	0.999	0.999	0.997
1200	0.999	0.999	0.998
1100	0.999	0.999	0.999
1060	0.999	0.999	0.999
1050	0.999	0.999	0.998
1000	0.999	0.999	0.998
950	0.999	0.999	0.998
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	0.996
750	0.999	0.998	0.996
700	0.999	0.997	0.995
650	0.999	0.998	0.995
600	0.998	0.994	0.988
550	0.996	0.991	0.982
500	0.998	0.996	0.991
480	0.998	0.994	0.988
460	0.997	0.992	0.985
440	0.996	0.991	0.982
420	0.996	0.989	0.978
400	0.993	0.984	0.967
390	0.991	0.979	0.958
380	0.988	0.970	0.941
370	0.982	0.956	0.914
360	0.972	0.930	0.865
350	0.941	0.859	0.737
340	0.870	0.706	0.498
330	0.644	0.333	0.111
320	0.217	0.022	
310	0.009		
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
		404.66	435.84	479.99	486.13	546.07	587.56	632.80	643.85	656.27	706.52
dn/dT & $d\nu/dT$ (rel.)	-40 / -20	5.4	5.0	4.5	4.5	4.1	3.9	3.7	3.7	3.7	3.5
	-20 / 0	5.5	5.0	4.6	4.5	4.1	3.9	3.8	3.7	3.7	3.6
	0 / 20	5.6	5.1	4.7	4.6	4.2	4.0	3.8	3.8	3.8	3.6
	20 / 40	5.8	5.3	4.8	4.7	4.3	4.1	3.9	3.9	3.8	3.7
	40 / 60	5.9	5.4	4.8	4.8	4.4	4.1	4.0	3.9	3.9	3.8
	60 / 80	6.0	5.5	4.9	4.9	4.4	4.2	4.0	4.0	4.0	3.8
	80 / 100	6.1	5.5	5.0	4.9	4.5	4.3	4.1	4.0	4.0	3.8
	100 / 120	6.2	5.6	5.0	5.0	4.5	4.3	4.1	4.0	4.0	3.9
	120 / 140	6.2	5.6	5.1	5.0	4.5	4.3	4.1	4.0	4.0	3.9
	140 / 150	6.2	5.6	5.0	5.0	4.5	4.3	4.1	4.0	4.0	3.8
dn/dT & $d\nu/dT$ (abs.)	-40 / -20	3.2	2.7	2.3	2.2	1.9	1.7	1.5	1.5	1.5	1.4
	-20 / 0	3.6	3.1	2.7	2.6	2.2	2.1	1.9	1.9	1.8	1.7
	0 / 20	4.0	3.5	3.0	3.0	2.6	2.4	2.2	2.2	2.2	2.0
	20 / 40	4.3	3.8	3.3	3.3	2.9	2.7	2.5	2.5	2.4	2.3
	40 / 60	4.6	4.1	3.6	3.5	3.1	2.9	2.7	2.7	2.7	2.5
	60 / 80	4.9	4.3	3.8	3.8	3.3	3.1	2.9	2.9	2.9	2.7
	80 / 100	5.1	4.5	4.0	3.9	3.5	3.3	3.1	3.1	3.0	2.9
	100 / 120	5.3	4.7	4.1	4.1	3.6	3.4	3.2	3.2	3.1	3.0
	120 / 140	5.4	4.8	4.2	4.2	3.7	3.5	3.3	3.2	3.2	3.1
	140 / 150	5.5	4.9	4.3	4.3	3.8	3.5	3.3	3.3	3.2	3.1

線膨張係数 α ($\times 10^{-7}/^\circ\text{C}$) Coefficient of Thermal Expansion	
(°C)	α
-40 / -30	53
-30 / -20	53
-20 / -10	54
-10 / 0	54
0 / 10	55
10 / 20	55
20 / 30	56
30 / 40	56
40 / 50	57
50 / 60	57
60 / 70	58
70 / 80	59
80 / 90	59
90 / 100	60
100 / 110	60
110 / 120	61
120 / 130	61
130 / 140	62
140 / 150	63

着色度 Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	365/325
着色度 (内部透過率) Coloration of Internal Transmittance	
$\lambda_{\tau 80}/\lambda_{\tau 5}$	355/325
CCI Color Contribution Index	
CCI (G)	0.66
CCI (R)	0.69

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	LAF45	N-KZFS4HT	S-NBM51	J-KZFH1		H-TF3L
Code	614-443	613-445	613-443	613-445		613-441

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