

FDS90-SGP

847-238 $n_d = 1.84666$ $\nu_d = 23.84$ (23.835) $n_F - n_C = 0.035521$
 $n_e = 1.85503$ $\nu_e = 23.65$ (23.648) $n_{F'} - n_{C'} = 0.036156$

屈折率 Refractive Index		
	λ (nm)	
$n_{1529.6}$	1529.60	1.79972
$n_{1128.64}$	1128.64	1.80932
n_t	1013.98	1.81305
n_s	852.11	1.82031
$n_{A'}$	768.195	1.82575
n_r	706.519	1.83102
n_C	656.273	1.83651
$n_{C'}$	643.847	1.83809
n_{633}	632.8	1.83957
n_D	589.294	1.84636
n_d	587.562	1.84666
n_e	546.074	1.85503
n_F	486.133	1.87203
$n_{F'}$	479.991	1.87424
n_g	435.834	1.89406
n_h	404.656	1.91415
n_i	365.015	1.95331

分散式の定数 Constants of dispersion formula	
A_0	3.2570937
A_1	$-1.6091892 \times 10^{-2}$
A_2	4.3820858×10^{-2}
A_3	4.5576259×10^{-3}
A_4	$-4.0169036 \times 10^{-4}$
A_5	4.5588441×10^{-5}

部分分散 Partial dispersions	
$n_C - n_t$	0.023460
$n_d - n_C$	0.010150
$n_F - n_d$	0.025371
$n_g - n_F$	0.022026
$n_{C'} - n_t$	0.025035
$n_e - n_{C'}$	0.016939
$n_{F'} - n_e$	0.019217
$n_g - n_{F'}$	0.019816

部分分散比 Partial dispersion rates	
$P_{C,t}$	0.6605
$P_{d,C}$	0.2857
$P_{e,d}$	0.2355
$P_{F,e}$	0.4788
$P_{g,F}$	0.6201
$P_{h,g}$	0.5657
$P_{i,h}$	1.1024
$P'_{C,t}$	0.6924
$P'_{d,C'}$	0.2372
$P'_{e,d'}$	0.2313
$P'_{F',e'}$	0.5315
$P'_{g,F'}$	0.5481
$P'_{h,g'}$	0.5557
$P'_{i,h'}$	

異常分散性 Anomalous dispersions	
$\Delta P_{C,t}$	0.0032
$\Delta P_{C,A'}$	-0.0028
$\Delta P_{g,d}$	0.0169
$\Delta P_{g,F}$	0.0147
$\Delta P_{i,g}$	

光弾性定数 Photoelastic Constant	
B ($10^{-12}/\text{Pa}$)	2.73

比重 Specific Gravity	
d	3.50

化学的性質 Chemical Properties	
D_W	2
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)	612
T_s (°C)	653
$T_{10^{14.5}}$ (°C)	588
$T_{10^{13}}$ (°C)	604
$T_{10^{7.6}}$ (°C)	697
$\alpha_{-30/+70^\circ\text{C}}$ ($10^{-7}/^\circ\text{C}$)	87
$\alpha_{100/300^\circ\text{C}}$ ($10^{-7}/^\circ\text{C}$)	107
λ [W/(m·K)]	1.000
C_p [kJ/(kg·K)]	0.610

機械的性質 Mechanical Properties	
H_K	550 (6)
F_A	160
E (GPa)	101
G (GPa)	40.7
μ	0.244
σ_b (MPa)	

内部透過率 Internal Transmittance			
λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.975	0.938	0.879
2400	0.980	0.950	0.902
2200	0.990	0.976	0.953
2000	0.996	0.991	0.983
1800	0.999	0.997	0.994
1600	0.999	0.999	0.999
1550	0.999	0.997	0.993
1500	0.999	0.997	0.994
1400	0.999	0.998	0.996
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	0.998
900	0.999	0.999	0.998
850	0.999	0.999	0.998
830	0.999	0.999	0.997
800	0.999	0.998	0.997
780	0.999	0.999	0.997
750	0.999	0.998	0.995
700	0.998	0.996	0.993
650	0.999	0.998	0.995
600	0.995	0.988	0.975
550	0.990	0.976	0.952
500	0.996	0.991	0.983
480	0.995	0.988	0.975
460	0.993	0.983	0.966
440	0.990	0.976	0.952
420	0.984	0.960	0.921
400	0.962	0.908	0.825
390	0.927	0.828	0.686
380	0.839	0.644	0.415
370	0.656	0.348	0.121
360	0.384	0.091	
350			
340			
330			
320			
310			
300			
290			
280			

屈折率の温度係数 dn/dT ($\times 10^{-6}/^\circ\text{C}$)		アッペ数の温度係数 $d\nu/dT$ ($\times 10^{-3}/^\circ\text{C}$)											
Temperature Coefficient of Refractive Index		Temperature Coefficient of Abbe-number											
	(°C)	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	6.6	4.4	2.7	2.5	1.3	0.8	0.4	0.3	0.2	-0.1	-1.5	-1.5
	-20 / 0	7.1	4.8	3.0	2.8	1.5	0.9	0.5	0.4	0.3	0.0	-1.6	-1.6
	0 / 20	7.7	5.2	3.3	3.1	1.7	1.2	0.7	0.6	0.5	0.2	-1.7	-1.7
	20 / 40	8.3	5.7	3.6	3.4	2.0	1.4	0.9	0.8	0.7	0.4	-1.8	-1.8
	40 / 60	8.8	6.2	4.0	3.8	2.3	1.6	1.1	1.0	0.9	0.6	-1.9	-1.9
	60 / 80	9.4	6.6	4.4	4.1	2.5	1.9	1.4	1.2	1.1	0.8	-1.9	-1.9
	80 / 100	10.0	7.1	4.7	4.5	2.8	2.1	1.6	1.5	1.3	1.0	-2.0	-2.0
	100 / 120	10.6	7.5	5.0	4.8	3.1	2.3	1.8	1.6	1.5	1.1	-2.1	-2.1
	120 / 140	11.1	7.9	5.4	5.1	3.3	2.5	1.9	1.8	1.7	1.3	-2.2	-2.2
	140 / 150	11.5	8.2	5.6	5.3	3.5	2.7	2.1	2.0	1.8	1.4	-2.2	-2.2
dn/dT & $d\nu/dT$ (abs.)	-40 / -20	4.0	1.8	0.1	-0.1	-1.2	-1.7	-2.1	-2.2	-2.3	-2.5	-1.6	-1.6
	-20 / 0	4.9	2.6	0.8	0.6	-0.7	-1.2	-1.6	-1.7	-1.8	-2.1	-1.6	-1.6
	0 / 20	5.7	3.3	1.4	1.2	-0.1	-0.7	-1.1	-1.2	-1.3	-1.6	-1.7	-1.7
	20 / 40	6.6	4.0	2.0	1.8	0.4	-0.2	-0.7	-0.8	-0.9	-1.2	-1.8	-1.8
	40 / 60	7.4	4.7	2.5	2.3	0.9	0.2	-0.3	-0.4	-0.5	-0.8	-1.9	-1.9
	60 / 80	8.1	5.3	3.1	2.8	1.3	0.6	0.1	0.0	-0.1	-0.5	-2.0	-1.9
	80 / 100	8.9	5.9	3.6	3.3	1.7	1.0	0.4	0.3	0.2	-0.2	-2.0	-2.0
	100 / 120	9.5	6.5	4.0	3.8	2.1	1.3	0.8	0.6	0.5	0.1	-2.1	-2.1
	120 / 140	10.2	7.0	4.4	4.2	2.4	1.6	1.0	0.9	0.8	0.4	-2.2	-2.2
	140 / 150	10.7	7.4	4.7	4.5	2.6	1.8	1.2	1.1	1.0	0.6	-2.2	-2.2

線膨張係数 α ($\times 10^{-7}/^\circ\text{C}$)	
Coefficient of Thermal Expansion	
(°C)	α
-40 / -30	83
-30 / -20	84
-20 / -10	85
-10 / 0	86
0 / 10	87
10 / 20	87
20 / 30	88
30 / 40	88
40 / 50	88
50 / 60	89
60 / 70	89
70 / 80	89
80 / 90	90
90 / 100	90
100 / 110	91
110 / 120	92
120 / 130	93
130 / 140	94
140 / 150	95

着色度 Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	(404)/367
着色度 (内部透過率) Coloration of Internal Transmittance	
$\lambda_{\tau 80}/\lambda_{\tau 5}$	398/366

CCI Color Contribution Index	
CCI (G)	3.48
CCI (R)	3.53

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	FDS90-SGP	N-SF57HT	S-TIH53W	J-SF03HS	K-SFLDn3	H-ZF52GT
Code	847-238	847-238	847-238	847-238	847-239	847-238
Excel File Name : HOYA20250701M.xlsm						