

NBFD25

855-252 $n_d = 1.85451$ $\nu_d = 25.15$ (25.155) $n_F - n_C = 0.033970$
 $n_e = 1.86252$ $\nu_e = 24.97$ (24.970) $n_{F'} - n_{C'} = 0.034542$

屈折率 Refractive Index		
	λ (nm)	
$n_{1529.6}$	1529.60	1.80857
$n_{1128.64}$	1128.64	1.81811
n_t	1013.98	1.82181
n_s	852.11	1.82896
$n_{A'}$	768.195	1.83428
n_r	706.519	1.83941
n_C	656.273	1.84473
$n_{C'}$	643.847	1.84625
n_{633}	632.8	1.84768
n_D	589.294	1.85421
n_d	587.562	1.85451
n_e	546.074	1.86252
n_F	486.133	1.87870
$n_{F'}$	479.991	1.88079
n_g	435.834	1.89943
n_h	404.656	1.91808
n_i	365.015	1.95364

部分分散 Partial dispersions	
$n_C - n_t$	0.022923
$n_d - n_C$	0.009776
$n_F - n_d$	0.024194
$n_g - n_F$	0.020732
$n_{C'} - n_t$	0.024444
$n_e - n_{C'}$	0.016267
$n_{F'} - n_e$	0.018275
$n_g - n_{F'}$	0.018639

比重 Specific Gravity	
d	3.48

内部透過率 Internal Transmittance			
λ (nm)	τ_{2mm}	τ_{5mm}	τ_{10mm}
2500	0.972	0.931	0.867
2400	0.979	0.948	0.899
2200	0.988	0.971	0.943
2000	0.994	0.986	0.972
1800	0.996	0.990	0.981
1600	0.998	0.994	0.988
1550	0.998	0.994	0.989
1500	0.998	0.994	0.988
1400	0.998	0.996	0.992
1300	0.999	0.997	0.995
1200	0.999	0.998	0.995
1100	0.999	0.998	0.995
1060	0.999	0.998	0.995
1050	0.999	0.998	0.996
1000	0.999	0.998	0.995
950	0.999	0.998	0.995
900	0.999	0.998	0.996
850	0.999	0.997	0.995
830	0.999	0.998	0.995
800	0.999	0.999	0.999
780	0.999	0.999	0.999
750	0.999	0.999	0.998
700	0.999	0.998	0.997
650	0.999	0.997	0.994
600	0.996	0.990	0.981
550	0.992	0.980	0.960
500	0.997	0.993	0.985
480	0.996	0.990	0.981
460	0.995	0.986	0.973
440	0.992	0.980	0.960
420	0.987	0.969	0.939
400	0.973	0.935	0.874
390	0.959	0.900	0.809
380	0.933	0.840	0.705
370	0.875	0.716	0.513
360	0.682	0.385	0.148
350	0.266	0.037	
340	0.014		
330			
320			
310			
300			
290			
280			

部分分散比 Partial dispersion rates			
$P_{C,t}$	0.6748	$P'_{C,t}$	0.7077
$P_{d,C}$	0.2878	$P'_{d,C}$	0.2390
$P_{e,d}$	0.2359	$P'_{e,d}$	0.2319
$P_{F,e}$	0.4764	$P'_{F,e}$	0.5291
$P_{g,F}$	0.6103	$P'_{g,F}$	0.5396
$P_{h,g}$	0.5491	$P'_{h,g}$	0.5400
$P_{i,h}$	1.0468	$P'_{i,h}$	1.0295

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 (°C)	553
T_s (°C)	600
$T_{10^{14.5}}$ (°C)	524
$T_{10^{13}}$ (°C)	546
$T_{10^{7.6}}$ (°C)	639
$\alpha_{-30/+70}$ ($10^{-7}/^{\circ}C$)	81
$\alpha_{100/300}$ ($10^{-7}/^{\circ}C$)	105
λ [W/(m·K)]	1.090
C_p [kJ/(kg·K)]	0.690

分散式の定数 Constants of dispersion formula	
A_0	3.2879389
A_1	$-1.5856356 \times 10^{-2}$
A_2	4.5638807×10^{-2}
A_3	3.3027661×10^{-3}
A_4	$-2.1690686 \times 10^{-4}$
A_5	2.9625863×10^{-5}

異常分散性 Anomalous dispersions	
$\Delta P_{C,t}$	0.0114
$\Delta P_{C,A'}$	0.0002
$\Delta P_{g,d}$	0.0080
$\Delta P_{g,F}$	0.0073
$\Delta P_{i,g}$	0.0776

機械的性質 Mechanical Properties	
H_K	545 (5)
F_A	140
E (GPa)	105
G (GPa)	41.7
μ	0.255
σ_b (MPa)	85

光弾性定数 Photoelastic Constant	
B ($10^{-12}/Pa$)	3.34

屈折率の温度係数 dn/dT ($\times 10^{-6}/^{\circ}C$)		アッペ数の温度係数 $d\nu/dT$ ($\times 10^{-3}/^{\circ}C$)												
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	7.8	5.8	4.3	4.1	3.0	2.6	2.2	2.1	2.0	1.8	-1.5	-1.5	
	-20 / 0	8.0	5.9	4.3	4.1	3.0	2.5	2.2	2.1	2.0	1.7	-1.5	-1.5	
	0 / 20	8.2	6.1	4.4	4.2	3.1	2.6	2.2	2.1	2.0	1.7	-1.6	-1.6	
	20 / 40	8.5	6.3	4.5	4.3	3.1	2.6	2.2	2.1	2.0	1.8	-1.6	-1.6	
	40 / 60	8.8	6.5	4.6	4.5	3.2	2.7	2.3	2.2	2.1	1.8	-1.7	-1.7	
	60 / 80	9.0	6.7	4.8	4.6	3.3	2.7	2.3	2.2	2.1	1.8	-1.7	-1.7	
	80 / 100	9.3	6.9	4.9	4.7	3.4	2.8	2.4	2.3	2.2	1.9	-1.8	-1.8	
	100 / 120	9.6	7.0	5.0	4.8	3.4	2.9	2.4	2.3	2.2	1.9	-1.9	-1.8	
	120 / 140	9.8	7.2	5.1	4.9	3.5	2.9	2.4	2.3	2.2	1.9	-1.9	-1.9	
	140 / 150	10.0	7.3	5.2	5.0	3.5	2.9	2.4	2.3	2.2	1.9	-1.9	-1.9	
dn/dT & $d\nu/dT$ (abs.)	-40 / -20	5.2	3.2	1.7	1.5	0.5	0.0	-0.3	-0.4	-0.5	-0.7	-1.5	-1.5	
	-20 / 0	5.7	3.7	2.1	1.9	0.8	0.4	0.0	-0.1	-0.1	-0.4	-1.5	-1.5	
	0 / 20	6.3	4.2	2.5	2.3	1.2	0.7	0.3	0.2	0.2	-0.1	-1.6	-1.6	
	20 / 40	6.8	4.6	2.9	2.7	1.5	1.0	0.6	0.5	0.4	0.2	-1.6	-1.6	
	40 / 60	7.3	5.0	3.2	3.0	1.8	1.2	0.8	0.8	0.7	0.4	-1.7	-1.7	
	60 / 80	7.7	5.4	3.5	3.3	2.0	1.5	1.0	1.0	0.9	0.6	-1.8	-1.7	
	80 / 100	8.1	5.7	3.8	3.6	2.2	1.7	1.2	1.1	1.1	0.7	-1.8	-1.8	
	100 / 120	8.5	6.0	4.0	3.8	2.4	1.8	1.4	1.3	1.2	0.9	-1.9	-1.8	
	120 / 140	8.9	6.3	4.2	4.0	2.6	2.0	1.5	1.4	1.3	1.0	-1.9	-1.9	
	140 / 150	9.1	6.4	4.3	4.1	2.7	2.1	1.6	1.5	1.4	1.0	-1.9	-1.9	

線膨張係数 α ($\times 10^{-7}/^{\circ}C$)	
Coefficient of Thermal Expansion	
(°C)	α
-40 / -30	71
-30 / -20	74
-20 / -10	76
-10 / 0	78
0 / 10	79
10 / 20	81
20 / 30	82
30 / 40	83
40 / 50	84
50 / 60	84
60 / 70	85
70 / 80	85
80 / 90	85
90 / 100	86
100 / 110	86
110 / 120	86
120 / 130	86
130 / 140	87
140 / 150	87

着色度 Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	(395)/355
着色度 (内部透過率) Coloration of Internal Transmittance	
$\lambda_{\tau 80}/\lambda_{\tau 5}$	389/355

CCI Color Contribution Index	
CCI (G)	2.33
CCI (R)	2.51

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	NBFD25		(S-NBH56)			
Code	855-252		(855-248)			

Excel File Name : HOYA20250701M.xlsm