

ガラスモールドレンズ用プリフォーム硝種 (冷間P F)
Preform for precision molding (Polishing surface)

推奨硝種
Recommended Glass Type

MC-NBFD130

806-407 $n_d = 1.80610$ $\nu_d = 40.73$ (40.731) $n_F - n_C = 0.019791$
 $n_e = 1.81080$ $\nu_e = 40.48$ (40.477) $n_{F'} - n_{C'} = 0.020031$

屈折率 Refractive Index		
	λ (nm)	
$n_{1529.6}$	1529.60	1.77521
$n_{1128.64}$	1128.64	1.78276
n_t	1013.98	1.78543
n_s	852.11	1.79028
$n_{A'}$	768.195	1.79372
n_r	706.519	1.79695
n_C	656.273	1.80022
$n_{C'}$	643.847	1.80115
n_{633}	632.8	1.80202
n_D	589.294	1.80593
n_d	587.562	1.80610
n_e	546.074	1.81080
n_F	486.133	1.82002
$n_{F'}$	479.991	1.82118
n_g	435.834	1.83128
n_h	404.656	1.84090
n_i	365.015	1.85793

分散式の定数 Constants of dispersion formula	
A_0	3.1737940
A_1	$-1.4986580 \times 10^{-2}$
A_2	2.9067410×10^{-2}
A_3	1.2048290×10^{-3}
A_4	$-5.3551580 \times 10^{-5}$
A_5	5.2713500×10^{-6}

部分分散 Partial dispersions	
$n_C - n_t$	0.014796
$n_d - n_C$	0.005876
$n_F - n_d$	0.013915
$n_g - n_F$	0.011269
$n_{C'} - n_t$	0.015721
$n_e - n_{C'}$	0.009652
$n_{F'} - n_e$	0.010379
$n_g - n_{F'}$	0.010104

部分分散比 Partial dispersion rates			
$P_{C,t}$	0.7476	$P'_{C',t}$	0.7848
$P_{d,C}$	0.2969	$P'_{d,C'}$	0.2472
$P_{e,d}$	0.2375	$P'_{e,d}$	0.2347
$P_{F,e}$	0.4656	$P'_{F',e}$	0.5181
$P_{g,F}$	0.5694	$P'_{g,F'}$	0.5044
$P_{h,g}$	0.4860	$P'_{h,g}$	0.4802
$P_{i,h}$	0.8605	$P'_{i,h}$	0.8502

異常分散性 Anomalous dispersions	
$\Delta P_{C,t}$	0.0114
$\Delta P_{C,A'}$	0.0021
$\Delta P_{g,d}$	-0.0065
$\Delta P_{g,F}$	-0.0056
$\Delta P_{i,g}$	-0.0340

光弾性定数 Photoelastic Constant	
B ($10^{-12}/\text{Pa}$)	2.20

比重 Specific Gravity	
d	4.56

化学的性質 Chemical Properties	
D_W	1
D_A	3
T_{Blue}	3
D_{NaOH}	2
D_{STPP}	2
D_O	2
D_H	1

熱的性質 Thermal Properties	
T_g (°C)	567
T_s (°C)	604
$T_{10^{14.5}}$ (°C)	538
$T_{10^{13}}$ (°C)	559
$T_{10^{7.6}}$ (°C)	647
α -30/+70°C ($10^{-7}/^\circ\text{C}$)	56
α 100/300°C ($10^{-7}/^\circ\text{C}$)	74
λ [W/(m·K)]	0.917
C_p [kJ/(kg·K)]	0.548

機械的性質 Mechanical Properties	
H_K	610 (6)
F_A	76
E (GPa)	111
G (GPa)	42.7
μ	0.304
σ_b (MPa)	92

内部透過率 Internal Transmittance			
λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.896	0.759	0.576
2400	0.934	0.842	0.709
2200	0.978	0.947	0.896
2000	0.991	0.978	0.957
1800	0.996	0.990	0.980
1600	0.999	0.997	0.994
1550	0.999	0.997	0.994
1500	0.999	0.997	0.993
1400	0.999	0.998	0.997
1300	0.999	0.999	0.998
1200	0.999	0.999	0.998
1100	0.999	0.999	0.998
1060	0.999	0.999	0.998
1050	0.999	0.999	0.998
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	0.999
600	0.994	0.997	0.994
550	0.997	0.992	0.984
500	0.999	0.998	0.996
480	0.994	0.997	0.994
460	0.998	0.995	0.989
440	0.997	0.992	0.984
420	0.995	0.988	0.976
400	0.991	0.978	0.956
390	0.986	0.966	0.933
380	0.978	0.946	0.895
370	0.961	0.905	0.818
360	0.923	0.818	0.669
350	0.831	0.630	0.397
340	0.628	0.313	0.098
330	0.313	0.055	0.003
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										$d\nu/dT$			
		n_h	n_g	$n_{F'}$	n_F	n_e	n_d	n_{633}	$n_{C'}$	n_C	n_r	ν_e	ν_d		
		404.66	435.84	479.99	486.13	546.07	587.56	632.80	643.85	656.27	706.52	546.07	587.56		
dn/dT & $d\nu/dT$ (rel.)	-40 / -20	11.9	10.5	9.2	9.1	8.2	7.8	7.5	7.4	7.4	7.2	-3.2	-3.2		
	-20 / 0	11.8	10.4	9.2	9.1	8.2	7.8	7.5	7.5	7.4	7.2	-3.1	-3.1		
	0 / 20	11.8	10.4	9.2	9.1	8.2	7.8	7.5	7.5	7.4	7.2	-3.0	-3.0		
	20 / 40	11.8	10.4	9.2	9.1	8.3	7.9	7.6	7.6	7.5	7.3	-3.0	-2.9		
	40 / 60	11.8	10.4	9.3	9.2	8.4	8.0	7.7	7.7	7.6	7.4	-2.9	-2.8		
	60 / 80	11.8	10.5	9.4	9.3	8.5	8.1	7.8	7.8	7.7	7.5	-2.8	-2.8		
	80 / 100	11.8	10.5	9.4	9.3	8.6	8.2	7.9	7.9	7.8	7.6	-2.7	-2.7		
	100 / 120	11.9	10.6	9.5	9.4	8.6	8.3	8.0	8.0	7.9	7.7	-2.7	-2.6		
	120 / 140	11.9	10.6	9.6	9.5	8.7	8.4	8.1	8.1	8.0	7.8	-2.6	-2.6		
	140 / 150	11.9	10.7	9.6	9.5	8.8	8.5	8.2	8.1	8.1	7.9	-2.5	-2.5		
dn/dT & $d\nu/dT$ (abs.)	-40 / -20	9.4	7.9	6.7	6.6	5.8	5.4	5.1	5.0	5.0	4.7	-3.2	-3.2		
	-20 / 0	9.6	8.2	7.1	6.9	6.1	5.7	5.4	5.4	5.3	5.1	-3.1	-3.1		
	0 / 20	9.9	8.5	7.4	7.2	6.4	6.0	5.7	5.7	5.6	5.4	-3.1	-3.0		
	20 / 40	10.1	8.8	7.6	7.5	6.7	6.3	6.1	6.0	5.9	5.7	-3.0	-2.9		
	40 / 60	10.3	9.0	7.9	7.8	7.0	6.6	6.3	6.3	6.2	6.0	-2.9	-2.9		
	60 / 80	10.5	9.2	8.1	8.0	7.2	6.9	6.6	6.5	6.5	6.3	-2.8	-2.8		
	80 / 100	10.7	9.4	8.3	8.2	7.4	7.1	6.8	6.8	6.7	6.5	-2.7	-2.7		
	100 / 120	10.8	9.6	8.5	8.4	7.7	7.3	7.0	7.0	6.9	6.7	-2.7	-2.6		
	120 / 140	11.0	9.7	8.7	8.6	7.8	7.5	7.2	7.2	7.1	6.9	-2.6	-2.6		
	140 / 150	11.0	9.8	8.8	8.7	8.0	7.6	7.4	7.3	7.3	7.1	-2.5	-2.5		

線膨張係数 α ($\times 10^{-7}/^\circ\text{C}$) Coefficient of Thermal Expansion	
(°C)	α
-40 / -30	51
-30 / -20	53
-20 / -10	54
-10 / 0	55
0 / 10	56
10 / 20	56
20 / 30	57
30 / 40	58
40 / 50	58
50 / 60	59
60 / 70	59
70 / 80	60
80 / 90	60
90 / 100	61
100 / 110	61
110 / 120	61
120 / 130	62
130 / 140	62
140 / 150	62

着色度 Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	400/340
着色度 (内部透過率) Coloration of Internal Transmittance	
$\lambda_{\tau 80}/\lambda_{\tau 5}$	368/337
CCI Color Contribution Index	
CCI (G)	0.90
CCI (R)	0.93

冷却速度による屈折率の変化 Difference of refractive indices by cooling rate	
β_C	148
β_d	149
β_F	151
β_g	152

備考 Remarks						
硝種対照表 Glass Cross Reference Index						
	HOYA	SCHOTT	OHARA	HIKARI	SUMITA	CDGM
Glass_Type	MC-NBFD130					
Code	806-407					
Excel File Name : HOYA20250701M.xlsm						