

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-TAFD317

881-372 $n_d = 1.88120$ $\nu_d = 37.17$ (37.169) $n_F - n_C = 0.023708$
 $n_e = 1.88683$ $\nu_e = 36.92$ (36.922) $n_{F'} - n_{C'} = 0.024019$

屈折率 Refractive Index		
	λ (nm)	
$n_{1529.6}$	1529.60	1.84670
$n_{1128.64}$	1128.64	1.85425
n_t	1013.98	1.85712
n_s	852.11	1.86258
$n_{A'}$	768.195	1.86656
n_r	706.519	1.87034
n_C	656.273	1.87421
$n_{C'}$	643.847	1.87531
n_{633}	632.8	1.87634
n_D	589.294	1.88099
n_d	587.562	1.88120
n_e	546.074	1.88683
n_F	486.133	1.89792
$n_{F'}$	479.991	1.89932
n_g	435.834	1.91159
n_h	404.656	1.92336
n_i	365.015	1.94438

分散式の定数 Constants of dispersion formula	
A_0	3.4245278
A_1	$-1.3070182 \times 10^{-2}$
A_2	3.7836322×10^{-2}
A_3	1.0784823×10^{-3}
A_4	$-2.6774386 \times 10^{-6}$
A_5	4.4862660×10^{-6}

部分分散 Partial dispersions	
$n_C - n_t$	0.017084
$n_d - n_C$	0.006991
$n_F - n_d$	0.016717
$n_g - n_F$	0.013674
$n_{C'} - n_t$	0.018181
$n_e - n_{C'}$	0.011519
$n_{F'} - n_e$	0.012500
$n_g - n_{F'}$	0.012266

部分分散比 Partial dispersion rates			
$P_{C,t}$	0.7206	$P'_{C',t}$	0.7569
$P_{d,C}$	0.2949	$P'_{d,C'}$	0.2454
$P_{e,d}$	0.2373	$P'_{e,d}$	0.2342
$P_{F,e}$	0.4679	$P'_{F',e}$	0.5204
$P_{g,F}$	0.5768	$P'_{g,F'}$	0.5107
$P_{h,g}$	0.4963	$P'_{h,g}$	0.4899
$P_{i,h}$	0.8868	$P'_{i,h}$	0.8753

異常分散性 Anomalous dispersions	
$\Delta P_{C,t}$	0.0010
$\Delta P_{C,A'}$	0.0006
$\Delta P_{g,d}$	-0.0052
$\Delta P_{g,F}$	-0.0047
$\Delta P_{i,g}$	-0.0289

光弾性定数 Photoelastic Constant	
B ($10^{-12}/\text{Pa}$)	1.63

比重 Specific Gravity	
d	5.34

化学的性質 Chemical Properties	
D_W	1
D_A	2
T_{Blue}	3
D_{NaOH}	1
D_{STPP}	1
D_0	2
D_H	1

熱的性質 Thermal Properties	
T_g ($^{\circ}\text{C}$)	583
T_s ($^{\circ}\text{C}$)	631
$T_{10^{14.5}}$ ($^{\circ}\text{C}$)	560
$T_{10^{13}}$ ($^{\circ}\text{C}$)	585
$T_{10^{7.6}}$ ($^{\circ}\text{C}$)	671
α -30/+70 ($10^{-7}/^{\circ}\text{C}$)	67
α 100/300 ($10^{-7}/^{\circ}\text{C}$)	85
λ [$\text{W}/(\text{m}\cdot\text{K})$]	0.783
C_p [$\text{kJ}/(\text{kg}\cdot\text{K})$]	0.435

機械的性質 Mechanical Properties	
H_K	665 (7)
F_A	70
E (GPa)	118
G (GPa)	45.0
μ	0.302
σ_b (MPa)	

内部透過率 Internal Transmittance			
λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.933	0.841	0.707
2400	0.961	0.906	0.820
2200	0.989	0.972	0.945
2000	0.995	0.988	0.976
1800	0.998	0.995	0.991
1600	0.999	0.998	0.995
1550	0.999	0.998	0.996
1500	0.999	0.998	0.995
1400	0.999	0.999	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	0.997
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	0.998
850	0.999	0.999	0.998
830	0.999	0.998	0.997
800	0.999	0.999	0.997
780	0.999	0.998	0.997
750	0.999	0.998	0.997
700	0.999	0.997	0.995
650	0.999	0.997	0.994
600	0.996	0.991	0.982
550	0.993	0.982	0.965
500	0.997	0.993	0.987
480	0.996	0.991	0.982
460	0.995	0.987	0.974
440	0.993	0.982	0.965
420	0.989	0.973	0.947
400	0.980	0.951	0.905
390	0.970	0.927	0.860
380	0.952	0.884	0.782
370	0.916	0.802	0.643
360	0.831	0.630	0.397
350	0.656	0.349	0.122
340	0.296	0.048	
330	0.031		
320			
310			
300			
290			
280			

着色度 Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	(390)/345
着色度 (内部透過率) Coloration of Internal Transmittance	
$\lambda_{\tau 80}/\lambda_{\tau 5}$	382/345

CCI Color Contribution Index	
CCI (G)	1.87
CCI (R)	1.96

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			
	$(^{\circ}\text{C})$	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	9.5	8.6	7.6	7.5	6.6	6.2	5.9	5.8	5.8	5.5	-2.4	-2.4		
	-20 / 0	9.6	8.6	7.5	7.4	6.6	6.2	5.8	5.8	5.7	5.4	-2.5	-2.5		
	0 / 20	9.7	8.6	7.6	7.5	6.6	6.2	5.8	5.7	5.7	5.4	-2.5	-2.6		
	20 / 40	9.8	8.7	7.6	7.5	6.6	6.2	5.8	5.8	5.7	5.4	-2.6	-2.6		
	40 / 60	10.0	8.8	7.7	7.6	6.7	6.2	5.9	5.8	5.7	5.4	-2.7	-2.7		
	60 / 80	10.1	9.0	7.8	7.7	6.7	6.3	5.9	5.8	5.7	5.5	-2.8	-2.8		
	80 / 100	10.3	9.1	7.9	7.8	6.8	6.3	5.9	5.9	5.8	5.5	-2.8	-2.8		
	100 / 120	10.4	9.2	8.0	7.8	6.8	6.4	5.9	5.9	5.8	5.5	-2.9	-2.9		
	120 / 140	10.6	9.3	8.1	7.9	6.9	6.4	6.0	5.9	5.8	5.5	-3.0	-3.0		
	140 / 150	10.7	9.4	8.1	8.0	6.9	6.4	6.0	5.9	5.8	5.5	-3.0	-3.0		
dn/dT & $d\nu/dT$ (abs.)	-40 / -20	6.9	5.9	5.0	4.9	4.1	3.7	3.4	3.3	3.2	3.0	-2.4	-2.4		
	-20 / 0	7.3	6.3	5.3	5.2	4.4	4.0	3.7	3.6	3.5	3.3	-2.5	-2.5		
	0 / 20	7.7	6.7	5.7	5.5	4.7	4.3	3.9	3.9	3.8	3.5	-2.6	-2.6		
	20 / 40	8.1	7.0	6.0	5.8	5.0	4.5	4.2	4.1	4.0	3.8	-2.6	-2.6		
	40 / 60	8.5	7.3	6.2	6.1	5.2	4.8	4.4	4.3	4.3	4.0	-2.7	-2.7		
	60 / 80	8.8	7.6	6.5	6.4	5.4	5.0	4.6	4.5	4.5	4.2	-2.8	-2.8		
	80 / 100	9.1	7.9	6.7	6.6	5.6	5.2	4.8	4.7	4.6	4.3	-2.8	-2.9		
	100 / 120	9.4	8.1	6.9	6.8	5.8	5.3	4.9	4.9	4.8	4.5	-2.9	-2.9		
	120 / 140	9.6	8.3	7.1	7.0	5.9	5.5	5.1	5.0	4.9	4.6	-3.0	-3.0		
	140 / 150	9.8	8.5	7.2	7.1	6.0	5.5	5.1	5.0	5.0	4.6	-3.0	-3.1		

冷却速度による屈折率の変化 Difference of refractive indices by cooling rate	
β_C	132
β_d	133
β_F	135
β_g	137

備考 Remarks						
硝種対照表 Glass Cross Reference Index						
	HOYA	SCHOTT	OHARA	HIKARI	SUMITA	CDGM
Glass_Type	MC-TAFD317					
Code	881-372					
Excel File Name : HOYA20250701M.xlsm						