ガラスモールドレンズ用プリフォーム硝種（熱間ＰＦ）
Preform for precision molding (Precision gob)

推奨硝種
Recommended Glass Type

MP-PCD55AR　639-552

n_d= 1.63858　ν_d= 55.18 (55.183)　$n_F - n_C$ = 0.011572
n_e= 1.64133　ν_e= 54.88 (54.876)　$n_{F'} - n_{C'}$ = 0.011687

屈折率 Refractive Index		
	λ(nm)	
$n_{1529.6}$	1529.60	1.61934
$n_{1128.64}$	1128.64	1.62429
n_t	1013.98	1.62599
n_s	852.11	1.62904
$n_{A'}$	768.195	1.63116
n_r	706.519	1.63312
n_C	656.273	1.63509
$n_{C'}$	643.847	1.63564
n_{633}	632.8	1.63616
n_D	589.294	1.63848
n_d	587.562	1.63858
n_e	546.074	1.64133
n_F	486.133	1.64666
$n_{F'}$	479.991	1.64733
n_g	435.834	1.65306
n_h	404.656	1.65843
n_i	365.015	1.66770

分散式の定数 Constants of dispersion formula	
A_0	2.6366261
A_1	$-9.2645802 \times 10^{-3}$
A_2	1.6956609×10^{-2}
A_3	2.6444551×10^{-4}
A_4	6.1366528×10^{-6}
A_5	3.4208341×10^{-7}

部分分散 Partial dispersions	
$n_C - n_t$	0.009098
$n_d - n_C$	0.003488
$n_F - n_d$	0.008084
$n_g - n_F$	0.006402
$n_{C'} - n_t$	0.009651
$n_e - n_{C'}$	0.005691
$n_{F'} - n_e$	0.005996
$n_g - n_{F'}$	0.005734

部分分散比 Partial dispersion rates			
P_{C_t}	0.7862	$P'_{C'\_t}$	0.8258
P_{d_C}	0.3014	$P'_{d\_C'}$	0.2511
P_{e_d}	0.2382	P'_{e_d}	0.2358
P_{F_e}	0.4604	$P'_{F'\_e}$	0.5130
P_{g_F}	0.5532	$P'_{g\_F'}$	0.4906
P_{h_g}	0.4640	P'_{h_g}	0.4594
P_{i_h}	0.8012	P'_{i_h}	0.7933

異常分散性 Anomalous dispersions	
ΔP_{C_t}	-0.0175
$\Delta P_{C\_A'}$	-0.0043
ΔP_{g_d}	0.0057
ΔP_{g_F}	0.0042
ΔP_{i_g}	0.0124

光弾性定数 Photoelastic Constant	
B (10^{-12}/Pa)	1.53

比重 Specific Gravity	
d	3.57

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

熱的性質 Thermal Properties	
T_g (℃)	518
T_s (℃)	558
$T_{10^{14.5}}$ (℃)	491
$T_{10^{13}}$ (℃)	509
$T_{10^{7.6}}$ (℃)	587
$\alpha_{-30/+70℃}$ (10^{-7}/℃)	92
$\alpha_{100/300℃}$ (10^{-7}/℃)	113
λ [W/(m·K)]	0.721
C_P [kJ/(kg·K)]	0.565

機械的性質 Mechanical Properties	
H_K	395(4)
F_A	250
E (GPa)	82
G (GPa)	31.8
μ	0.281
σ_b (MPa)	82

内部透過率 Internal Transmittance			
λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.976	0.940	0.734
2400	0.981	0.953	0.788
2200	0.992	0.979	0.899
2000	0.998	0.994	0.972
1800	0.999	0.997	0.984
1600	0.999	0.998	0.990
1550	0.999	0.998	0.991
1500	0.999	0.998	0.990
1400	0.999	0.998	0.990
1300	0.999	0.999	0.994
1200	0.999	0.999	0.992
1100	0.999	0.998	0.991
1060	0.999	0.998	0.996
1050	0.999	0.998	0.996
1000	0.999	0.998	0.996
950	0.999	0.998	0.996
900	0.999	0.998	0.996
850	0.999	0.998	0.997
830	0.999	0.998	0.997
800	0.999	0.999	0.998
780	0.999	0.999	0.998
750	0.999	0.999	0.999
700	0.999	0.999	0.999
650	0.999	0.999	0.999
600	0.999	0.997	0.994
550	0.997	0.993	0.987
500	0.999	0.998	0.996
480	0.999	0.997	0.994
460	0.998	0.996	0.991
440	0.997	0.993	0.987
420	0.996	0.990	0.980
400	0.993	0.982	0.965
390	0.989	0.973	0.948
380	0.983	0.957	0.916
370	0.971	0.930	0.864
360	0.948	0.874	0.764
350	0.910	0.791	0.625
340	0.850	0.666	0.443
330	0.751	0.489	0.239
320	0.594	0.272	0.074
310			
300			
290			
280			

屈折率の温度係数 dn/dT （$\times 10^{-6}$/℃）　Temperature Coefficient of Refractive Index
アッベ数の温度係数 dν/dT （$\times 10^{-3}$/℃）　Temperature Coefficient of Abbe-number

	(℃)	dn/dT										dν/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 & dν/dT (rel.)	-40 / -20	0.7	0.3	0.0	-0.1	-0.4	-0.6	-0.7	-0.7	-0.8	-0.8	-3.3	-3.3
	-20 / 0	0.5	0.1	-0.2	-0.3	-0.6	-0.7	-0.9	-0.9	-0.9	-1.0	-3.2	-3.3
	0 / 20	0.4	0.0	-0.3	-0.4	-0.7	-0.8	-1.0	-1.0	-1.0	-1.1	-3.2	-3.2
	20 / 40	0.4	0.0	-0.4	-0.4	-0.7	-0.9	-1.0	-1.0	-1.1	-1.1	-3.2	-3.2
	40 / 60	0.4	0.0	-0.3	-0.4	-0.7	-0.8	-1.0	-1.0	-1.0	-1.1	-3.1	-3.1
	60 / 80	0.4	0.1	-0.3	-0.3	-0.6	-0.8	-0.9	-1.0	-1.0	-1.1	-3.2	-3.2
	80 / 100	0.5	0.2	-0.2	-0.2	-0.6	-0.7	-0.8	-0.9	-0.9	-1.0	-3.1	-3.2
	100 / 120	0.7	0.3	-0.1	-0.1	-0.4	-0.6	-0.7	-0.8	-0.8	-0.9	-3.2	-3.2
	120 / 140	0.8	0.4	0.1	0.0	-0.3	-0.5	-0.6	-0.6	-0.6	-0.7	-3.2	-3.2
	140 / 150	0.9	0.6	0.2	0.1	-0.2	-0.3	-0.5	-0.5	-0.5	-0.6	-3.2	-3.2
dn/dT & dν/dT (abs.)	-40 / -20	-1.6	-2.0	-2.3	-2.3	-2.6	-2.8	-2.9	-2.9	-3.0	-3.1	-3.2	-3.2
	-20 / 0	-1.5	-1.8	-2.1	-2.2	-2.5	-2.6	-2.8	-2.8	-2.8	-2.9	-3.2	-3.2
	0 / 20	-1.3	-1.6	-2.0	-2.0	-2.3	-2.5	-2.6	-2.6	-2.6	-2.7	-3.2	-3.2
	20 / 40	-1.1	-1.5	-1.8	-1.8	-2.1	-2.3	-2.4	-2.4	-2.5	-2.6	-3.2	-3.2
	40 / 60	-0.9	-1.3	-1.6	-1.7	-2.0	-2.1	-2.2	-2.3	-2.3	-2.4	-3.2	-3.2
	60 / 80	-0.7	-1.1	-1.4	-1.5	-1.8	-1.9	-2.0	-2.1	-2.1	-2.2	-3.2	-3.2
	80 / 100	-0.5	-0.8	-1.2	-1.2	-1.6	-1.7	-1.8	-1.9	-1.9	-2.0	-3.2	-3.2
	100 / 120	-0.3	-0.6	-1.0	-1.0	-1.3	-1.5	-1.6	-1.6	-1.7	-1.8	-3.2	-3.2
	120 / 140	0.0	-0.4	-0.8	-0.8	-1.1	-1.3	-1.4	-1.4	-1.5	-1.5	-3.2	-3.2
	140 / 150	0.2	-0.2	-0.6	-0.6	-0.9	-1.1	-1.2	-1.2	-1.3	-1.4	-3.2	-3.2

線膨張係数 α （$\times 10^{-7}$/℃）　Coefficient of Thermal Expansion

(℃)	α
-40 / -30	81
-30 / -20	84
-20 / -10	87
-10 / 0	89
0 / 10	90
10 / 20	91
20 / 30	92
30 / 40	92
40 / 50	92
50 / 60	92
60 / 70	92
70 / 80	92
80 / 90	92
90 / 100	92
100 / 110	93
110 / 120	93
120 / 130	94
130 / 140	95
140 / 150	97

着色度 Coloration Code	
λ80(λ70)/λ5	380/320
着色度（内部透過率） Coloration of Internal Transmittance	
λτ80/λτ5	363/318

CCI Color Contribution Index	
CCI(G)	0.73
CCI(R)	0.75

冷却速度による屈折率の変化 Difference of refractive indices by cooling rate	
βC	206
βd	207
βF	208
βg	209

備考 Remarks

硝種対照表 Glass Cross Reference Index

	HOYA	SCHOTT	OHARA	HIKARI	SUMITA	CDGM
Glass_Type	MP-PCD55AR					
Code	639-552					

Excel File Name : HOYA20250701M.xlsm