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

推奨硝種
Recommended Glass Type

MC-FAD61

655-610

n_d= 1.65451 ν_d= 61.01 (61.010) $n_F - n_C$ = 0.010728
n_e= 1.65707 ν_e= 60.67 (60.666) $n_{F'} - n_{C'}$ = 0.010831

屈折率 Refractive Index		
	λ (nm)	
$n_{1529.6}$	1529.60	1.63708
$n_{1128.64}$	1128.64	1.64140
n_t	1013.98	1.64293
n_s	852.11	1.64569
$n_{A'}$	768.195	1.64764
n_r	706.519	1.64945
n_C	656.273	1.65127
$n_{C'}$	643.847	1.65178
n_{633}	632.8	1.65226
n_D	589.294	1.65441
n_d	587.562	1.65451
n_e	546.074	1.65707
n_F	486.133	1.66200
$n_{F'}$	479.991	1.66262
n_g	435.834	1.66788
n_h	404.656	1.67278
n_i	365.015	1.68112

分散式の定数 Constants of dispersion formula	
A_0	2.6914665
A_1	$-7.8157495 \times 10^{-3}$
A_2	1.5908207×10^{-2}
A_3	3.2974776×10^{-4}
A_4	$-1.1185275 \times 10^{-5}$
A_5	7.8277667×10^{-7}

部分分散 Partial dispersions	
$n_C - n_t$	0.008345
$n_d - n_C$	0.003238
$n_F - n_d$	0.007490
$n_g - n_F$	0.005886
$n_{C'} - n_t$	0.008858
$n_e - n_{C'}$	0.005282
$n_{F'} - n_e$	0.005549
$n_g - n_{F'}$	0.005270

部分分散比 Partial dispersion rates			
P_{C_t}	0.7779	$P'_{C'\_t}$	0.8178
P_{d_C}	0.3018	$P'_{d\_C'}$	0.2516
P_{e_d}	0.2383	P'_{e_d}	0.2361
P_{F_e}	0.4598	$P'_{F'\_e}$	0.5123
P_{g_F}	0.5487	$P'_{g\_F'}$	0.4866
P_{h_g}	0.4558	P'_{h_g}	0.4515
P_{i_h}	0.7776	P'_{i_h}	0.7702

異常分散性 Anomalous dispersions	
ΔP_{C_t}	-0.0530
$\Delta P_{C\_A'}$	-0.0123
ΔP_{g_d}	0.0139
ΔP_{g_F}	0.0101
ΔP_{i_g}	0.0322

光弾性定数 Photoelastic Constant	
B (10^{-12}/Pa)	0.55

比重 Specific Gravity	
d	4.68

化学的性質 Chemical Properties	
D_W	1
D_A	4
T_{Blue}	3*
D_{NaOH}	1
D_{STPP}	2
D_0	2
D_H	1

熱的性質 Thermal Properties	
T_g (℃)	540
T_s (℃)	582
$T_{10^{14.5}}$ (℃)	512
$T_{10^{13}}$ (℃)	535
$T_{10^{7.6}}$ (℃)	
$\alpha_{-30/+70℃}$ (10^{-7}/℃)	97
$\alpha_{100/300℃}$ (10^{-7}/℃)	122
λ [W/(m·K)]	0.829
C_P [kJ/(kg·K)]	0.492

機械的性質 Mechanical Properties	
H_K	540(5)
F_A	160
E (GPa)	99
G (GPa)	37.8
μ	0.300
σ_b (MPa)	97

内部透過率 Internal Transmittance			
λ (nm)	τ 2mm	τ 5mm	τ 10mm
2500	0.956	0.893	0.797
2400	0.971	0.929	0.864
2200	0.988	0.971	0.943
2000	0.995	0.989	0.977
1800	0.998	0.994	0.987
1600	0.998	0.996	0.992
1550	0.999	0.996	0.993
1500	0.999	0.996	0.993
1400	0.999	0.998	0.995
1300	0.999	0.998	0.996
1200	0.999	0.998	0.996
1100	0.999	0.998	0.997
1060	0.999	0.998	0.997
1050	0.999	0.998	0.997
1000	0.999	0.998	0.997
950	0.999	0.998	0.997
900	0.999	0.998	0.997
850	0.999	0.999	0.997
830	0.999	0.998	0.997
800	0.999	0.998	0.996
780	0.999	0.998	0.996
750	0.999	0.998	0.996
700	0.999	0.998	0.995
650	0.999	0.997	0.994
600	0.999	0.997	0.994
550	0.999	0.998	0.995
500	0.999	0.997	0.995
480	0.999	0.997	0.994
460	0.999	0.996	0.993
440	0.998	0.996	0.992
420	0.998	0.995	0.991
400	0.998	0.995	0.990
390	0.998	0.994	0.989
380	0.997	0.992	0.985
370	0.995	0.988	0.976
360	0.992	0.979	0.959
350	0.985	0.964	0.928
340	0.973	0.935	0.874
330	0.954	0.889	0.790
320	0.924	0.820	0.673
310	0.880	0.726	0.528
300	0.822	0.612	0.375
290	0.751	0.489	0.239
280	0.658	0.351	0.123

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	-1.2	-1.5	-1.8	-1.8	-2.1	-2.3	-2.4	-2.4	-2.4	-2.5	-3.6	-3.6
	-20 / 0	-1.4	-1.8	-2.1	-2.1	-2.4	-2.5	-2.6	-2.7	-2.7	-2.8	-3.6	-3.7
	0 / 20	-1.7	-2.0	-2.3	-2.3	-2.6	-2.7	-2.9	-2.9	-2.9	-3.0	-3.6	-3.6
	20 / 40	-1.8	-2.1	-2.4	-2.5	-2.8	-2.9	-3.0	-3.1	-3.1	-3.2	-3.7	-3.7
	40 / 60	-1.9	-2.2	-2.6	-2.6	-2.9	-3.0	-3.2	-3.2	-3.2	-3.3	-3.6	-3.6
	60 / 80	-2.0	-2.3	-2.7	-2.7	-3.0	-3.1	-3.3	-3.3	-3.3	-3.4	-3.7	-3.8
	80 / 100	-2.1	-2.4	-2.8	-2.8	-3.1	-3.2	-3.3	-3.4	-3.4	-3.5	-3.7	-3.7
	100 / 120	-2.1	-2.5	-2.8	-2.8	-3.1	-3.3	-3.4	-3.4	-3.5	-3.6	-3.8	-3.8
	120 / 140	-2.2	-2.5	-2.9	-2.9	-3.2	-3.3	-3.5	-3.5	-3.5	-3.6	-3.8	-3.9
	140 / 150	-2.2	-2.6	-2.9	-2.9	-3.2	-3.4	-3.5	-3.5	-3.5	-3.6	-3.8	-3.8
dn/dT & dν/dT (abs.)	-40 / -20	-3.5	-3.8	-4.1	-4.1	-4.4	-4.5	-4.6	-4.6	-4.7	-4.7	-3.6	-3.6
	-20 / 0	-3.4	-3.7	-4.0	-4.1	-4.3	-4.5	-4.6	-4.6	-4.6	-4.7	-3.6	-3.6
	0 / 20	-3.4	-3.7	-4.0	-4.0	-4.3	-4.4	-4.5	-4.5	-4.6	-4.7	-3.6	-3.6
	20 / 40	-3.3	-3.6	-3.9	-3.9	-4.2	-4.4	-4.5	-4.5	-4.5	-4.6	-3.7	-3.7
	40 / 60	-3.2	-3.5	-3.9	-3.9	-4.2	-4.3	-4.4	-4.4	-4.5	-4.6	-3.7	-3.7
	60 / 80	-3.2	-3.5	-3.8	-3.8	-4.1	-4.3	-4.4	-4.4	-4.4	-4.5	-3.7	-3.7
	80 / 100	-3.1	-3.4	-3.8	-3.8	-4.1	-4.2	-4.3	-4.4	-4.4	-4.5	-3.7	-3.8
	100 / 120	-3.1	-3.4	-3.7	-3.8	-4.0	-4.2	-4.3	-4.3	-4.4	-4.5	-3.8	-3.8
	120 / 140	-3.0	-3.4	-3.7	-3.7	-4.0	-4.2	-4.3	-4.3	-4.3	-4.4	-3.8	-3.8
	140 / 150	-3.0	-3.3	-3.7	-3.7	-4.0	-4.1	-4.3	-4.3	-4.3	-4.4	-3.8	-3.8

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

(℃)	α
-40 / -30	95
-30 / -20	95
-20 / -10	96
-10 / 0	96
0 / 10	96
10 / 20	96
20 / 30	97
30 / 40	97
40 / 50	97
50 / 60	98
60 / 70	98
70 / 80	99
80 / 90	99
90 / 100	100
100 / 110	101
110 / 120	101
120 / 130	102
130 / 140	103
140 / 150	104

着色度 Coloration Code	
λ80(λ70)/λ5	345/270
着色度（内部透過率） Coloration of Internal Transmittance	
λτ80/λτ5	331/271

CCI Color Contribution Index	
CCI(G)	0.13
CCI(R)	0.09

冷却速度による屈折率の変化 Difference of refractive indices by cooling rate	
βC	76
βd	76
βF	76
βg	76

備考 Remarks

硝種対照表 Glass Cross Reference Index

	HOYA	SCHOTT	OHARA	HIKARI	SUMITA	CDGM
Glass_Type	MC-FAD61					
Code	655-610					

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