

ZF13 785258

nd =1.78472	vd =25.76	nF – nC =0.030468
ne =1.79190	ve =25.55	nF' - nc' =0.030998

Refractive Indices		
	λ (nm)	
n_r	706.5	1.77126
n_c	656.3	1.77598
$n_{c'}$	643.8	1.77734
n_{He-Ne}	632.8	1.77862
n_D	589.3	1.78446
n_d	587.6	1.78472
n_e	546.1	1.7919
n_F	486.1	1.80645
$n_{F'}$	480.0	1.80834
n_g	435.8	1.82518
n_h	404.7	1.84211
n_i	365.0	

Constants of Dispersion (Cauchy)	
A_0	3.055125
A_1	$-1.2150543 \times 10^{-2}$
A_2	3.8382477×10^{-2}
A_3	3.2031384×10^{-3}
A_4	2.4096955×10^{-4}
A_5	2.9674918×10^{-5}

Relative Partial Dispersions			
$P_{d,c}$	0.2868	$P'_{d,c'}$	0.2381
$P_{e,d}$	0.2356	$P'_{e,d}$	0.2316
$P_{g,F}$	0.6147	$P'_{g,F'}$	0.5432

Deviation of Relative Partial Dispersions	
$\Delta P_{F,e}$	0.0015
$\Delta P_{g,F}$	0.0139

NHG	HOYA	OHARA	SCHOTT
ZF13	FD11	PBH11	SF11

Chemical Properties	
	Group
RC(S)	1
RA(S)	3
DW	1
DA	3

Thermal Properties	
T_g (°C)	434
T_s (°C)	478
$T_{10}^{14.5}$ (°C)	385
T_{10}^{13} (°C)	420
$\alpha_{20/120^\circ C}$ ($10^{-7}/K$)	82.35
$\alpha_{20/300^\circ C}$ ($10^{-7}/K$)	88.57

Mechanical Properties	
Hardness ($10^7 Pa$)	390
FA (Relative Abrasion)	
Young's Modulus ($10^7 Pa$)	5733
Rigidity Modulus ($10^7 Pa$)	2301
Poisson's Ratio	0.246

Photoelastic Constant	
β ($10^{-12}/Pa$)	

Color	
λ_{80}/λ_5	43/37

Specific Gravity	
ρ (g/cm^3)	4.89

Internal Transmittance		
λ (nm)	τ_{5mm}	τ_{10mm}
2400	0.956	0.914
2200	0.97	0.941
2000	0.984	0.969
1800	0.991	0.983
1600	0.998	0.996
1400	0.998	0.997
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.998	0.996
700	0.993	0.987
650	0.993	0.986
600	0.993	0.986
550	0.993	0.986
500	0.99	0.98
480	0.984	0.969
460	0.976	0.953
440	0.963	0.928
420	0.935	0.874
400	0.85	0.72
390	0.73	0.53
380	0.48	0.23
370	0.14	0.02
360		
350		
340		
330		
320		
310		
300		
290		
280		



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