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### QUICK

### RELIABLE

### QUALITY

Optimax provides rapid delivery services for a wide variety of optics ranging in size from 10-100mm. Specifications below are general guidelines for tolerancing prototype optics with optical surfaces of f/1 or slower. Tighter tolerances may be possible depending on part specific size, shape and/or material. Optimax stocks a large inventory of **ECO-FRIENDLY** preferred glasses, see listing.

**ASPHERES** ▲

**CYLINDERS** ▲

**PRISMS** ▲

**SPHERES**

## OPTICS MANUFACTURING TOLERANCES

ATTRIBUTE	COMMERCIAL QUALITY	PRECISION QUALITY	HIGH PRECISION QUALITY
GLASS MATERIAL ( $n_d$ , $v_d$ )	$\pm 0.001$ , $\pm 0.8\%$	$\pm 0.0005$ , $\pm 0.5\%$	Melt Data
DIAMETER (mm)	+0.00/-0.10	+0.000/-0.025	+0.000/-0.015
CENTER THICKNESS (mm)	$\pm 0.150$	$\pm 0.050$	$\pm 0.025$
SAG (mm)	$\pm 0.050$	$\pm 0.025$	$\pm 0.015$
CLEAR APERTURE	80%	90%	90%
RADIUS	$\pm 0.2\%$ or 5 fr	$\pm 0.1\%$ or 3 fr	$\pm 0.05\%$ or 1 fr
IRREGULARITY - Interferometer (fringes)	2	0.5	0.2
IRREGULARITY - Profilometer (microns)	$\pm 10$	$\pm 1$	$\pm 0.5$
WEDGE LENS (ETD, mm)	0.050	0.010	0.005
WEDGE PRISM (TIA, arc min)	$\pm 5$	$\pm 1$	$\pm 0.5$
BEVELS (face width @ 45°, mm)	< 1.0	< 0.5	< 0.5
SCRATCH - DIG (MIL-PRF-13830B)	80 - 50	60 - 40	20 - 10
SURFACE ROUGHNESS ( $\text{\AA}$ rms)	50	20	10
AR COATING ( $R_{Ave}$ )	MgF <sub>2</sub> R < 1.5%	BBAR R < 0.5%	V-coat R < 0.2%

**PROTOTYPE OPTICS IN 1 WEEK**

0110HPSO

458678  
 487702  
 497816  
 516641  
 522597  
 532489  
 540595  
 548458  
 569562  
 581407  
 583464  
 589612  
 603380  
 606437  
 607568  
 613587  
 618498  
 620363  
 648338  
 651560  
 670473  
 673321  
 689311  
 691548  
 713539  
 717295  
 744448  
 750352  
 755275  
 785257  
 788474  
 805254  
 806409  
 847238  
 881408  
 923189

P R E F E R R E D G L A S S E S  
 ECO-FRIENDLY