



## MIRROR BLANK MATERIAL, ALIGO INPUT MODE CLEANER MIRROR #1

AUTHOR:	CHECKED:	DATE	APPROVALS		
			DCN NO.	REV	DATE
Rodica Martin, Dave Reitze	David Tanner	03-28-08		-01-	
		05-05-08		-02-	

### Applicable Documents

D070083-01-D

ALIGO Input Mode Cleaner Mirror #1 Blank

MIL-G-174-B

Glass, Optical

### Requirements

Physical Dimensions	Per D070083-01-D ALIGO Input Mode Cleaner Mirror #1 Blank
Diameter	153 mm, +1 mm, -0 mm
Thickness	81 mm, +1 mm, -0 mm
Clear Aperture	Central 140 mm
Serial Number	Blanks shall be serialized as IMC1-XX, where XX increments starting at 01
Material	Fused Silica Grade 0C or equivalent
Final Shaping	Shaping shall be performed using a progression of grit size ending with a 320 or smaller grit wheel
Defect Depth	Maximum on any surface or corner is less than 0.5 mm
Homogeneity	$\leq 2 \times 10^{-6}$ peak to valley at $\lambda = 632.8$ nm, within the central 140 mm
Birefringence	$\leq 1$ nm/cm within the central 140 mm
Bubble and inclusion cross section within clear aperture	Total $\leq 0.03$ mm <sup>2</sup> /100 cm <sup>3</sup> of glass Inclusions with a diameter of 0.06 mm or less are disregarded Maximum inclusion diameter $\leq 0.1$ mm No inclusions within clear aperture of center 100 mm
Striae within the clear aperture	Grade A according to MIL-G-174
Absorption	$< 10$ ppm per centimeter at $\lambda=1.06$ $\mu$ m



**MIRROR BLANK MATERIAL, ALIGO INPUT MODE CLEANER  
MIRROR #1**

**Table 1: Measurement Matrix - Frequency and Method**

Specification	Test Method	Frequency of Inspection	Data Delivered
Physical Dimensions	Measurement	100%	Diameter, Thickness
Serial Number	Visual Inspection	100%	Inspection Report included with Certification
Material	Process Control Material Certification	100%	Certification
Defect Depth	Visual Inspection	100%	Certification
Homogeneity	Interferometric Measurement	100%	Phase Map
Birefringence	MIL-G-174, Section 4.4.5	100%	Inspection Report included with Certification
Inclusions	Visual Inspections	100%	Hand sketch indicating location and dimensions
Striae	MIL-G-174, Section 4.4.5, method 1 or 2 (in optical axis only)	100%	Inspection Report included with Certification
Absorption at 1.06 $\mu\text{m}$	Material Certification	100%	Certification