MIRROR BLANK MATERIAL, ALIGO INPUT MODE CLEANER MIRROR #2

AUTHOR:	CHECKED:	DATE	APPROVALS		
			DCN NO.	REV	DATE
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Applicable Documents

D070084-01-D	ALIGO Input Mode Cleaner Mirror #2 Blank
MIL-G-174-B	Glass, Optical

Requirements

Physical Dimensions	Per D070084-01-D ALIGO Input Mode Cleaner Mirror #2 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 IMC2-XX, where XX increments starting at 01
Material	Fused Silica, Grade 2F 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	≤ 5 x 10^{-6} peak to valley at λ = 632.8 nm, within the central 65 mm
Birefringence	≤ 1 nm/cm within the central 65 mm
Bubble and inclusion cross section within clear aperture	*Given by Grade 2F or equivalent:* Total ≤ 0.25 mm^2/100 cm^3 of glass Inclusions with a diameter of 0.06 mm or less are disregarded Maximum inclusion diameter ≤ 0.1 mm ≤ 0.03 mm^2/100 cm^3 in region 8 mm down from surface of side 1
Striae within the clear aperture	Grade A according to MIL-G-174
Absorption	< 20 ppm per centimeter at λ=1.06 μm (not critical)

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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%	Certification
Birefringence	MIL-G-174, Section 4.4.5	100%	Inspection Report included with Certification
Inclusions	Visual Inspections	100%	Hand sketch indicating location, depth, and dimensions
Striae	MIL-G-174, Section 4.4.5, method 1 or 2 (in optical axis only)	100%	Certification
Absorption at 1.06 μm	Material Certification	100%	Certification