



# SPECIFICATION

## 1.0 inch OFI Wedge Prism

AUTHOR:	DATE	CHECKED:
Michael Smith	1-30-12	Peter Fritschel

This specification is for anti-reflection coated, laser-quality, wedged window. It will be used at the input of the OFI to correct the input beam angle

### Applicable Documents

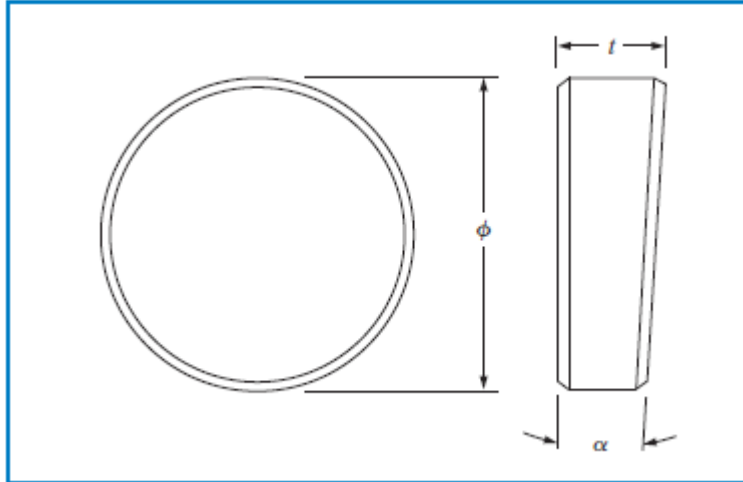
### Requirements

#### Physical Configuration

Diameter	1.00" +/- 0.01"
Thickness	0.375" +/- 0.010" (at thickest point)
Wedge	1 degree +/- 6 arc minute Thick edge of optic to be marked with a scribe line across the barrel
Bevel	45 deg. bevel on both edges, width approx. 0.03" or as appropriate to prevent chipping
Clear Aperture	Exceeds 85% of diameter
Markings	Markings: Part and serial number, as defined below, shall be scribed on the barrel



**1.0 inch OFI Wedge Prism**



**Substrate Material**

Fused silica, Corning 7980 or equivalent, grade 0A or better

**Part and Serial Number**

The Part/Serial number shall be of the format:

E1200098-vn                      YY                      is incremental, starting at 01

**Surfaces 1 and 2, measured over the clear aperture**

**Surface Quality: Surfaces 1 and 2**

Laser grade polish: 10-5 scratch-dig surface quality

**Transmitted wavefront error:**

$\lambda/20$  p-v or less, at 633 nm

**Surface roughness, Surfaces 1 and 2:**

< 1 Angstrom RMS

**Anti-Reflection Coatings:**

$R < 0.05\%$  for 0-5 deg. AOI, *s*- & *p*-polarization, 1064 nm

Applied to surfaces S1 and S2.



# SPECIFICATION

## 1.0 inch OFI Wedge Prism

Durability per MIL-C-675C, Coating Adhesion and Durability, or current compatible standard, to be approved by LIGO.

### Testing and Documentation

Specification	Test Method	Frequency of Inspection	Data Delivered
Physical Dimensions	Visual Inspection	100%	Certification
Surface Quality	Visual Inspection	100%	Certification
Transmitted Wavefront Error	Interferometry	100%	Certification
AR Coatings	Spectrophotometer	Witness sample for each coating run	Spectral scans