



**Recycling Mirror Blank, LASTI Experiment**

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

LIGO-D030005 Recycling Mirror Blank  
MIL-G-174-B Glass, Optical

**Requirements**

**Physical Dimensions**

Per LIGO-D030005 Recycling Mirror Blank

**Clear Aperture**

Central 245 mm

**Material**

Fused Silica

**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**

$\leq 5 \times 10^{-7}$  P-V at  $\lambda = 632.8$  nm, within the central 150 mm  
 $\leq 2.5 \times 10^{-6}$  P-V at  $\lambda = 632.8$  nm, outside the central 150 mm

**Birefringence**

$\leq 1$  nm/cm within the central 150 mm  
 $\leq 5$  nm/cm outside the central 150 mm

**Bubble and Inclusion Cross section**

Total  $\leq 0.03$  mm<sup>2</sup> /100cm<sup>3</sup> of Glass within the clear aperture  
Inclusions with a diameter of .06 mm or less are disregarded

**Maximum inclusion diameter**

$\leq 0.1$  mm

**Striae**

Grade A according to MIL-G-174 within the clear aperture

**Absorption**

$\leq 20$  parts per million per centimeter at  $\lambda = 1.06$ mm. This has been verified in 7980 glass in 1997, if there have been no process changes since that time this need not be re-measured.

**Inspection**

Certification of the above requirements must accompany any delivery