



**COMPONENT SPECIFICATION**

**TITLE 4 km TELESCOPE MIRROR SUBSTRATE #1, COATED**

APPROVALS:	DATE	REV	DCN NO	BY	CHK	DCC	DATE
DRAWN: David Reitze	06-23-98						
CHECKED:							
APPROVED:							
DCC RELEASE:							

**Applicable Documents**

LIGO-D970589-00-D 4 km Telescope Mirror #1 Substrate  
 LIGO-E970146-00-D Substrate, 4 km Telescope Mirror #1

**Requirements**

**Physical Configuration**

Fabricate from LIGO-D970589-00-D 4 km Telescope Mirror #1 Substrate

**Surface 1 and 2**

Coating to be centered at 1064 nm  
 Angle of Incidence to be 0 degrees

Coating Uniformity: 1nm rms - central 3 cm  
 15 nm p-v - over 6.8 cm  
 Scatter: <15 ppm  
 Absorption: <1 ppm

Zero surface electrical field

**Surface Quality**

To comply with LIGO Component Specification E960093-A-D (Page 2):  
 "Scratches and Point Defects"  
 Coating to resist abrasion test per MIL-M-13508C

**Surface 1: HR Coating**

Transmission: <20 ppm



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**Surface 2: AR Coating**

Reflection: < 300 ppm

**NOTE:**

Coating manufacturer to provide:

- 1. One (1 in.) witness plate from each coating run
- 2. Spectrophotometer graphs of Reflectance and Transmittance of HR coating