LIGO

CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DCN No. E970065-00-D
SHEET 1 OF 2

DOCUMENT CHANGE NOTICE (DCN)

DOCUMENT No. (DOC-REV-GP. ID)	TITLE	NEW REV.
E960094-A-D	Mirror Blank Material, Beam Splitter	B
E960100-A-D	Substrate, Beam Splitter	B
D960789-A-D	Beam Splitter Substrate	B
E960093-A-D	Substrate, Input Test Mass	B
D960787-A-D	Input Test Mass Substrate, 4K	B
D960803-A-D	Input Test Mass Substrate, 2K	B

CHANGE DESCRIPTION (FROM/TO):

Specification Changes incorporated in E960094-B-D
Revised to reference rev B of the BS Material Blank Drawing (already released)

Specification Changes incorporated in E960100-B-D and E960093-B-D
The registration mark will be inscribed within 5 mm of the mark drawn on the mirror blank.

Polish from a 5 micrometer grit.

Delete "Data shall be taken from side 1.....side 2" from page 4

Side 1 Radius of Curvature 14,570 meters
Radius of Curvature of the wavefront measured through Side 2 10,050 meters

REASON FOR CHANGE: Update documentation to incorporate definition of wedges, change of radius of curvature and other details negotiated with the Polisher.

ACTION: ☐ Incorporate change ☐ Attach DCN to drawing(s) ☐ Other action (specify):

DISPOSITION OF HARDWARE (IDENTIFY SERIAL NUMBERS)

- ☐ No hardware affected (record change only)
- ☐ List S/Ns which comply already:
- ☐ List S/Ns to be reworked or scrapped:
- ☒ List S/Ns to be built with this change: All
- ☐ List S/Ns to be retested per this change:

DCN DISTRIBUTION

Althouse, Barish, Coles, Coyne, Lazzarini, Lindquist, [redacted], Sanders, Shoemaker, Stapfer, Tyler, [redacted], Weiss, Whitcomb, [redacted]

Billingsley, Petrac, Kells, Elieson, Zydowicz

SAFETY, COST, SCHEDULE, REQUIREMENTS IMPACT? ☒ No ☐ Yes (If yes, enter CR (CCB) or TCP (TRB) no.)

APPROVALS:		DATE	OTHER APPROVALS (specify)	DATE
ORIGINATOR:	Billingsley	11/12/97		
TASK LEADER:	Camp Jordan Camp	11-13-97		
GROUP LEADER:	Whitcomb	11-13-97		
DCC RELEASE:		12/3/97		

DOCUMENT CHANGE NOTICE

CHANGE DESCRIPTION (FROM/TO): CONTINUED

Inspection method for scratches and point defects:
1. The surface is examined visually by two observers independently. The examination is done against a dark background using a three-bundle fiberoptic illumination system of 200 W total power. A 100% inspection of the surface is carried out. Pits and scratches down to 2 micrometers in width can be detected using this method of inspection. Any scratches that are detected will be measured using a calibrated eyepiece.
2. Further inspection will be done with a 6X eyeglass using the same illumination conditions, again with two observers. Sleeks down to 0.5 micrometers wide can be detected using this method. The surface will be scanned along one or two chords from centre to edge, then at ten positions around the edge, and ten to fifteen positions near the centre.
3. An inspection is then carried out with a dark field microscope with a similar sampling frequency as described in section 2.

Drawing changes which are incorporated in D960787-B-D, D960789-B-D and D960803-B-D
Wedge angles updated as follows:
D960787-B-D Input Test Mass Substrate, 4K; 1° 10'± 5'
D960789-B-D Beam Splitter Substrate; 1° ± 5'
D960803-B-D Input Test Mass Substrate, 2K; 0° 34'± 5'

Tolerance of +- 1 degree on location of registration mark WRT minimum thickness

Etch changed to "etch OR GRIND" in 3 places