LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY
- LIGO -
CALIFORNIA INSTITUTE OF TECHNOLOGY
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MAGNET/STANDOFF ASSEMBLY QUALITY CONFORMANCE WORKSHEET

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Distribution of this draft:

Detector

Date: _____ Number of sets: _____

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1 SCOPE

This Quality Conformance Worksheet is to be completed during the preparation of magnet stand-off assemblies.

2 PURPOSE

This QCW details the processes that LIGO personnel will use to ensure compliance with LIGO Project Quality requirements. Completed worksheets will also be used in the future to streamline these processes and increase reliability and repeatability.

This worksheet allows for up to four sets of magnet-standoff assemblies to be prepared in parallel. This allows for ample safety margin in the case of failed bonds, but minimises wastage in the usual case that all the bonds succeed, since the sets can be used on separate optics.

3 COMPONENTS

3.1. MAGNETS

3.2. Lot Information

Quantity_____

Manufacturer's name_____

Purchase Order No._____

Serial No./Lot No._____

3.3. Magnet Strengths

Table 1:

No	*Strength*	*Face*	*Side*	*PAM*	*No*	*Strength*	*Face*	*Side*	*PAM*
1					21				
2					22				
3					23				
4					24				
5					25				
6					26				
7					27				
8					28				
9					29				
10					30				
11					31				
12					32				
13					33				
14					34				
15					35				
16					36				
17					37				
18					38				
19					39				
20					40				

The strengths of the magnets should be measured and recorded in column 2. If the magnets are very even in strength, do not bother keeping track of individual sets. Make a single bulk selection of enough matched face magnets for the number of sets to be made up and indicate them with a tick in Column 3/6. Similarly, select the side magnets in bulk and indicate them with a tick in Column 4/8.

If the magnets are less even in strength, select sets individually and put the number of the set (1, 2, 3 or 4) that the magnet was selected for in Column 3/6 or 4/8 as appropriate.

3.4. Adhesive

Date_____ Person:_____

VacSeal label date: _____

VacSeal vacuum degassed (Y/N) _____

VacSeal cure temperature: _____

VacSeal cure start date/time: _____

VacSeal cure end date/time: _____

3.5. Polarity and Standoffs

Required numbers for different applications are given in parentheses.

Set 1:

N with regular (face) standoffs: _____ (2 for LOS, 4 for SOS)

S with regular (face) standoffs: _____ (2 for LOS or SOS)

S with LOS side standoffs: _____ (2 for LOS, except RM)

S with RM side standoffs: _____ (2 for RM)

Set 2:

N with regular (face) standoffs: _____ (2 for LOS, 4 for SOS)

S with regular (face) standoffs: _____ (2 for LOS or SOS)

S with LOS side standoffs: _____ (2 for LOS, except RM)

S with RM side standoffs: _____ (2 for RM)

Set 3:

N with regular (face) standoffs: _____ (2 for LOS, 4 for SOS)

S with regular (face) standoffs: _____ (2 for LOS or SOS)

S with LOS side standoffs: _____ (2 for LOS, except RM)

S with RM side standoffs: _____ (2 for RM)

Set 4:

N with regular (face) standoffs: _____ (2 for LOS, 4 for SOS)

S with regular (face) standoffs: _____ (2 for LOS or SOS)

S with LOS side standoffs: _____ (2 for LOS, except RM)

S with RM side standoffs: _____ (2 for RM)

4 DEPLOYMENT

Indicate the details of the optic that each set was used on.

Set 1:

Optic Name_____

Date_____ Person:_____

Set 2:

Optic Name_____

Date_____ Person:_____

Set 3:

Optic Name_____

Date_____ Person:_____

Set 4:

Optic Name_____

Date_____ Person:_____