

Title: PROCEDURE FOR CLEAN ROOM ACTIVITIES

PROCEDURE FOR
CLEAN ROOM ACTIVITIES
LIGO VACUUM EQUIPMENT

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and

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1.0 PURPOSE

The purpose of this procedure is to define the operational procedures to effectively perform manufacturing and testing in a Class 100 Clean Room environment.

2.0 GENERAL

The LIGO vacuum system performance is greatly influenced by the level of cleanliness of the vacuum surfaces. All components must be shipped to the site and installed without allowing contamination of the vacuum surfaces (flange faces and interior surface).

Once LIGO components are cleaned to UHV standards, they must be protected by a Class 100 clean room environment. This applies to assembly operations after UHV cleaning and to any subsequent inspections or other entry into the components.

All personnel must be trained in clean room procedures before entering the LIGO clean room areas. This includes viewing the Micron video tapes "Basic Contamination Control", "Robing for the Cleanroom", and "Behavior in the Cleanroom".

All clean room clothing (boots, gloves, gowns, hat covers, hoods, etc. shall meet Class 100 clean room standards.

Safety glasses shall be worn at all times.

3.0 RESPONSIBILITIES

The manufacturing department is responsible for training and execution of clean room protocol per this procedure. The Q.A. department shall monitor manufacturing and testing activities for compliance to this clean room procedure.

4.0 PROCEDURE

4.1 Clean Room Access

4.1.1 All personnel shall put on clean room clothing systems in an attached gowning room prior to entry into the Class 100 Clean Room. Personnel shall move from the first sticky mat (dirty) to the second sticky mat (clean) as they put on each shoe cover. All joints (glove to sleeve, pants to shoe cover). After gowning, personnel shall wait two minutes prior to entering the Class 100 area.

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- 4.1.2 All soiled or damaged clothing shall be discarded.
- 4.1.3 Only clean tools and components shall be allowed inside the Class 100 Clean Room. All equipment used inside the Class 100 clean room shall be oil free and shall not generate particles above Class 100 levels.
- 4.1.4 Clean Room particle levels shall be monitored during clean room operations where a component is open or about to be opened.
- 4.1.5 Clean Room particle levels must reach Class 100 level before a cleaned component maybe opened for inspection or assembly.
- 4.1.6 New personnel shall not enter the Class 100 Clean Room while a component is open.
- 4.1.7 Proper cleanroom behavior shall be observed while personnel are in the cleanroom.
- 4.2 Clean Room Exit
 - 4.2.1 All personnel shall exit the Class 100 area onto the clean sticky mat.
 - 4.2.2 Shoe covers shall be removed one at a time while moving over to the "dirty" sticky mat.
 - 4.2.3 Personnel shall remove the remaining Class 100 clothing and store in a "used clothing" storage area if not soiled or torn. Once the Class 100 clothing is removed, personnel shall leave the gowning room immediately.

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