LIGO LABORATORY
California Institute of Technology
1200 E. California Blvd.
Pasadena, CA 91125

Statement of Work
Fabrication of Magnetic Shields for Advanced LIGO BSC ISI GS-13 Pods

The following documents are incorporated into and made a part of purchase order. Click on the following LIGO Document Control Center (DCC) links to access these documents or go on line to the LIGO Public DCC at https://dcc.ligo.org/ to access the DCC#.

1.0 Terms:

DCC #	*Description*
C080185-v1	Laser Interferometer Gravitational Wave Observatory (LIGO) Commercial Items or Services Contract General Provisions California Institute of Technology "Institute", LIGO Rev 11/12/08
F0810001-v4	Technical Direction Memorandum.

2.0 Quality Control:

DCC #	*Description*
Q0900001-v4	Advanced LIGO Supplier Quality Requirements, dated 2/10/10, describes following contractor/supplier QA/QC actions for this procurement:

☐	3.1 Pre-Award Inspection	☐	3.9 Discrepant Material Storage	☐	4.4 Calibration Program
☒	3.2 Supplier In Process Quality Control	☒	3.10 Quality Records	☐	4.5 Critical Interface
☐	3.3 In Process Inspection	☐	3.11 Drawing and Specification Change Control	☐	4.6 Cleanliness
☐	3.4 Pre-Ship Inspection	☐	3.12 Welding Certification	☒	4.7 Packaging
☒	3.5 Receiving Inspection	☒	3.13 End Item Data Package (including Certifications of Compliance)	☐	4.8 Storage
☒	3.6 Discrepant Material	☐	4.1 Design Verification	☒	4.9 Transport
☒	3.7 Material Review Action	☐	4.2 Raw Material Procurement	☐	4.10 Customs
☒	3.8 Material Review Actions at Contractor	☐	4.3 Traceability of Materials		

For the above list the Supplier shall: 1) Identify the corresponding sections/paragraphs in their existing QA/QC system 2) meet or exceed the design requirements contained in the attached engineering documents for each area called out.

3.0 End Item Data Package:

At the time of delivery of the parts, the Supplier shall also provide the following data, as a minimum:

- Any as-built modifications (with approval of the LIGO Contracting Officer) as mark-ups to the drawings
- Material certifications
- Dimensional & QC inspection reports—this shall include a report showing that parts have been inspected and fall within specified tolerances.
- Certificate or statement of compliance with all contract and drawing process restrictions.

4.0 Included Documents:

In addition to the drawings, the contractor will be provided with CAD solid models of the parts (SolidWorks Professional 2010)

DCC #	*Description*
D1001527-v2	Drawing, GS-13 Cover- Mu Metal
D1001535-v2	Drawing , Top Hat- Mu Metal

5.0 Scope:

This SOW is for the fabrication of 2 unique parts detailed in the drawings included in this package. These 2 parts together will make a magnetic shield for a seismometer placed inside a vacuum pod. These parts will be used in Advanced LIGO as part of the BSC ISI.

6.0 Quantity Required:

part number	description	total quantity =	quantity for MIT +	quantity for LLO
D1001527-v2	cover	96	6	90
D1001535-v2	top hat	96	6	90

7.0 Delivery Requirements:

Desired schedule for delivery of parts:

30 of each part to LLO by 5 weeks ARO
6 of each part to MIT by 6 weeks ARO
30 of each part to LLO by 8 weeks ARO
30 of each part to LLO by 10 weeks ARO

The deliveries are FOB at these destinations, i.e. the contractor has responsibility for shipping title and control of goods until they are delivered and the transportation has been completed. The contractor selects the carrier and is responsible for the risk of transportation and for filing claims for loss or damage.

Shipping Location:
These items will be shipped to:

MIT LIGO (MIT)
c/o Myron MacInnis
NW-17
175 Albany St
Cambridge MA 02139

and

LIGO Livingston Observatory (LLO)
Attn: Celine Ramet and Tom Gentry
19100 LIGO Lane
Livingston, LA 70754

Shipping Containers:
The contractor is responsible for providing shipping containers and transportation which protects these parts from damage from the transportation environment (weather, handling, accidents, etc.). Mating edges of parts should be especially protected from damage during shipping.

8.0 Manufacturing:

7.1 Precedence

The Statement of Work (SOW) sections below regarding processing or fabrication of the parts are meant to convey the scope and nature of the requested work. If there is a conflict between the SOW and the drawing, the drawing has precedence.

7.2 Materials

Material is specified on the drawings is mumetal co-netic AA. Material with similar magnetic shielding properties is also acceptable.

7.3 Marking

Marking location is shown on the drawings.
All parts must be marked with a part number, revision code and serial number at the location indicated on the drawing. Marking is to be accomplished by mechanically scribing, stamping or engraving (no dyes or inks).
If not indicated in the drawing, mechanically scribe, stamp or engrave as follows:

<drawing number> - <revision code>, <type number if applicable>
<unique 3 digit serial number starting at 001 for the first part and incrementing thereafter>

As an example:

D0900026-v1
S/N – 001

The serial number must be a sequential 3-digit number, starting with 001, for each part.