

Government of India
Bhabha Atomic Research Centre
Electromagnetic Applications & Instrumentation Division

Ref No: BIARC/EmA&ID/PT/2021/P-12577

03/11/21

-----To whom so ever it may concern-----

Sub: Fabrication, machining, coil winding, epoxy coating, testing and magnetic qualification of prototype Golay coil conforming to technical specification

Dear Sir/Madam,

1. Quotations are invited Fabrication, machining, coil winding, epoxy coating, testing and magnetic qualification of prototype Golay coil conforming to technical specification
2. Bidder shall quote for Fabrication, machining, coil winding, epoxy coating, testing and magnetic qualification of prototype Golay coil conforming to technical specification.
3. Taxes and Excise Duties shall be quoted separately. Form AF / H whichever is applicable shall be provided, if required.

The quotation must reach The Head, Electromagnetic Application & Instrumentation Division by 11/11/21 12 PM and must be sent in a sealed envelope super scribed with the reference number & the due date given above only through India Ordinary Post/Speed Post.

4. The address on the envelop should read:
The Head, Electromagnetic Application & Instrumentation Division,
RCnD Bldg., North Site
BARC, Trombay,
Mumbai - 400 085.
(Kind Attn: P Trivedi, SO/F)
5. The bidder shall complete the job within 3 months from the date of firm work order issued to the bidder.
6. Head, Electromagnetic Application & Instrumentation Division reserves the rights to accept / reject any or all quotations without assigning any reason.
7. Quotation must also indicate the validity of offer. Quotation must also indicate the GST No and PAN number of the supplier.
8. The quotation has to be signed by authorized person with company seal.
9. Payment will be made by EFT only after satisfactory completion of work on production of bill, delivery challan and advance stamped receipt. Income tax as applicable will be collected at the time of payment.
10. In case of any technical clarifications, the supplier may kindly contact the indenting officer through Email only. (Email ID:praveent@barc.gov.in)

Encl.: Technical Specification Sheet no:


P Trivedi
SO/F, EMAS, EmA&ID

Annexure -B
Technical specification

Fabrication, machining, coil winding, epoxy coating, testing and magnetic qualification of prototype
 Galoy coil conforming to technical specification

1.0 Scope: - The tender document specifies the requirements for Fabrication, machining, coil winding, epoxy coating, cooling design and magnetic qualification of proto type galoy coil (X coil). The development of coil should be done strictly as per tender specification. In this document, BARC shall be referred as purchaser and fabricator/company who will be executing job is mentioned as the supplier.

All the material required for development of coil is to be purchased by supplier and none of material is will be given by purchaser. The supplier is whole sole responsible for completing of job.

Para 2.0 Deliverables

Para 3.0 Technical specifications

Para 4.0 Requirement of Inspection and testing

Para 5.0 Acceptance criterion

Para 6.0 requirement of packaging and safe delivery

Para 7.0 Confidentiality requirement

2.0 Deliverables

S.No.	Description	Qty
1	Fabrication, machining, coil winding, epoxy coating, cooling design and magnetic qualification of proto type galoy coil (X coil) along with Test and Inspection Report (Include 2D drawing,3D drawing ,test results fabrication drawing etc)	1 Nos

3.0 Technical specifications:

S.No	Description	Qty/No/Units
1.	Outer Diameter Of Cylindrical X galoy Coil	Should be no case greater then 297mm(including cooling jacket)
2.	Inner Diameter Of Cylindrical X galoy Coil	Should be no case greater then 210mm(including cooling jacket)
3.	Maximum length of galoy coil	600mm
4.	Angle of sector	160 degrees

5	Operating current	<750Amp continuous
6	Maximum Voltage	300V(during ramp up and ramp down)
7	Spatial distribution	(in 100 mm DSV): max +/- 3 %
8.	Gradient Value	86.5mT/m in 100mm DSV
9	Slew Rate	> 500 T/m/s
10	Inductance	In order mH
11	Cooling	Cooled by Nylon water jackets with all water cooling accessories. No conducting part except conductors used for avoid eddy current

4.0 Requirement of Inspection and testing: -

The tests listed are the minimum required and are not intended to supplant any controls, examinations, inspection, or tests normally employed by the supplier to assure the quality of the product.

1. **Geometry Tolerance and visual Inspection Test** : - The Coil should be neatly made and rugged construction with easy assembly and portability manufacturing. It should not violate external and internal dimensions as per technical specification in para 4.0.
2. **Inductance and resistance measurement** : - The air coil inductance and resistance Need to be measured and recorded The Transient response test of inductive coil to be measured and recorded.
3. **Cooling Test** : - The water flow test for coil to be done and maximum temp rise from inlet and outlet of coil should not exceed 20 degrees Celsius. The result to be recorded.
4. **Magnetic mapping of coil at low current namely 50 Amp** : - The coil should be passed low current and mapped magnetic using hall sensor for DSV as specified in para 4.0. and recorded. 3D plot and 2D plot to be provided to show gradient values.

5.0 Acceptance criterion: -

- a. All the test specified in para 5.0 should be satisfied along with all technical specification (para 4.0) met to be accepted for dispatch.
- b. All the test needs to be inspected by Purchaser representatives before Product dispatch to supplier premises.

6.0 Requirement of packaging and safe delivery: -

- a. Protective covers: Supplier shall make necessary arrangements for all components using a suitable PVC cover or moulded thermocol. Proper care should be taken while handling the component during fabrication, inspection, testing and packing.
- b. Packaging: After completion of all testing and identifying the components, the components shall be packed suitably for shipment, so that no damage occurs in transit. The purchaser shall subject the packing procedure to prior approval. At least one copy of packing list shall be kept in the package for quick and easy verification

7.0 CONFIDENTIALITY CLAUSE

7.1 No party shall disclose any information to any third party concerning the matters under this Contract generally. In particular, any information identified as "Proprietary" in nature by disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party. This clause shall apply to sub-contractors, consultants, advisors or the employees engaged by a party with equal force.

7.2 "Restricted information" categories under section 18 of the Atomic Energy Act, 1962 and "Official secrets" under section 5 of the Official Secrets Act, 1923: Any contravention of the above mentioned provisions by any contractor / sub-contractor, consultant, advisor or the employees of the contractor will invite penal consequences under the aforesaid legislation

7.3 Prohibition against the use of BARC's name without permission for publicity purpose. The contractor or subcontractors, consultants, advisors or the employees engaged by a party shall not use BARC's name for publicity purpose through any public media like: press, radio, TV or Internet without any prior approval of BARC (wide circular ref.: 2/Misc -9/Lgl/2001/92 date 30/04/2001)