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Government of India

Bhabha Atomic Research Centre

Reactor Design and Development Group (RDDG)

Reactivity Control Mechanism Section (RCMS)

Ref: RCMS /AJITH/INQ/2019/236

Date: May 03, 2019

Sub: Minor Fabrication - Invitation of Quotation.

Fabrication, testing and supply of a copper coil assembly for electromagnet

Dear Sir /Madam

1. Quotations are invited for fabrication, testing and supply of a copper coil assembly for electromagnet by Head-RCMS, RDDG, BARC, for the item as per Annexure-I, subjected to terms and conditions mentioned therein.
2. Quotation shall clearly and distinctively indicate basic cost, GST & other charges and validity of the offer. Applicable GST 5% against the concessional GST certificate shall be quoted separately. Incomplete offer will not be considered. The validity of the quotation should not be less than 60 days
3. The quotation must be sent in **sealed envelope, super scribed with the above inquiry no. and due date given above** by **Speed Post/Registered Post** only. The quotation must reach on or before **17th May 2019**. The envelope should read:

HEAD, Reactivity Control Mechanism Section (RCMS)

DRHR Office, Bhabha Atomic Research Centre

Trombay, Mumbai - 400 085.

4. Item will be subjected to inspection before delivery by our engineer.
5. The finished item shall be delivered at RCnD stores, BARC, Mumbai, 400 085 within two months from date of purchase order.
6. Supplier has to give warrantee/ guarantee for the coil at least one year from date of delivery.
7. The purchaser reserves the right to reject the quotation without assigning any reason.
8. Quotation received in computer-generated form shall not be acceptable. Quotation must be submitted in printed letterhead, mentioning clearly GST No., PAN No. Submission of Challan and Invoice shall also comply the same, in case work order is placed.

Head, RCMS, RDDG

Encl.: Annexure-I

Annexure-I Technical Specifications

Fabrication, testing and supply of a copper coil assembly for electromagnet (Total Qty: One assembly).

Scope

The supplier has to prepare fabrication drawings, arrange the material, and manufacture a copper coil as per the description given below. He has to fabricate the coil fitting bracket & coil cooling fins on one of the top face of the coil. He has to do qualification test on the coil as per IS standard. He has to do the safe delivery of the coil at RcnD stores, BARC, Mumbai, 400 085.

Introduction

The electromagnet structure consists of 7 layers of soft iron plates as core. Each layer is having a size of 600 x 560 x 12mm and made by joining two nos of soft iron plates. Each layer is provided with two nos of slots of size 180 x 21 mm for the coil. The coil will be sandwiched in these plates as shown in the figure 1. The coil should be a rigid, stable independent unit.

Technical details

Important technical specifications of the coil assembly are given as following:

Parameter	Description	Remarks
No of turns	240	-
No of layers	6	-
No of turns per layer	40	-
Conductor	4 x 2mm rectangular type copper	Class F insulated. Separate Nomex paper insulation can be provided between each layer.
Coil current	21Amp	Continuous
Coil bobbin	2/ 3mm thick,	G10/ Bakelite/Fibre glass (G10 will be preferred)
Overall Coil dimension	178 (L) x 19 (tk) x 390 (W) x 434 (H) mm	Including Bobbin, coil tapping & varnishing etc. Refer figure 1
Aluminium fins	300 x 178 x 50mm	Standard fins refer figure 3.
Connecting lead	32 A rating	4 pin terminal strips for wire connection
Coil Supports	Total 15 nos	Details in enclosed figure 4

Supplier has to prepare the fabrication drawing and get the approval from the purchaser. After that supplier has to procure raw material & bought out items for the fabrication. After fabrication of coil, he has to do qualification tests on the coil like resistance, megger, HV test, temperature rise test with & without cooling fins.

Connecting lead should be provided for connecting the coil with power supply. He will do varnishing and potting over the magnet coil. The whole coil structure should be a rigid & stable one and capable of easy insertion and removal in the available slot provided in the magnet plate assembly. After successful qualification, whole coil structure should be painted by epoxy paint two coat.

General Note to the Supplier:

1. Supplier should have experience in manufacturing of coils for various electromagnets.
2. Supplier has to give offer with detailed specifications of components.
3. Supplier has to take prior approval of bought out items and fabrication drawings before the fabrication of coil.

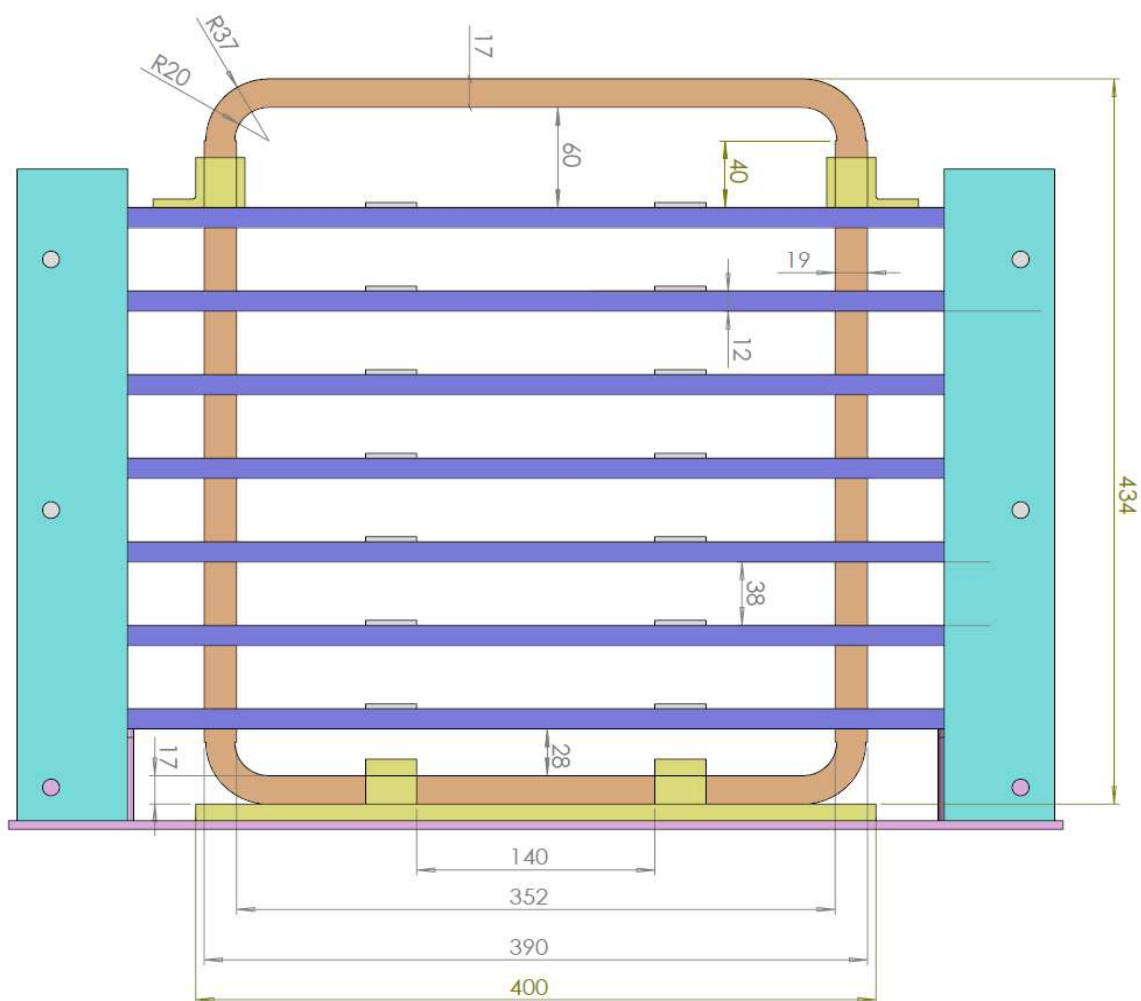


Figure1: Electromagnet with Coil inserted

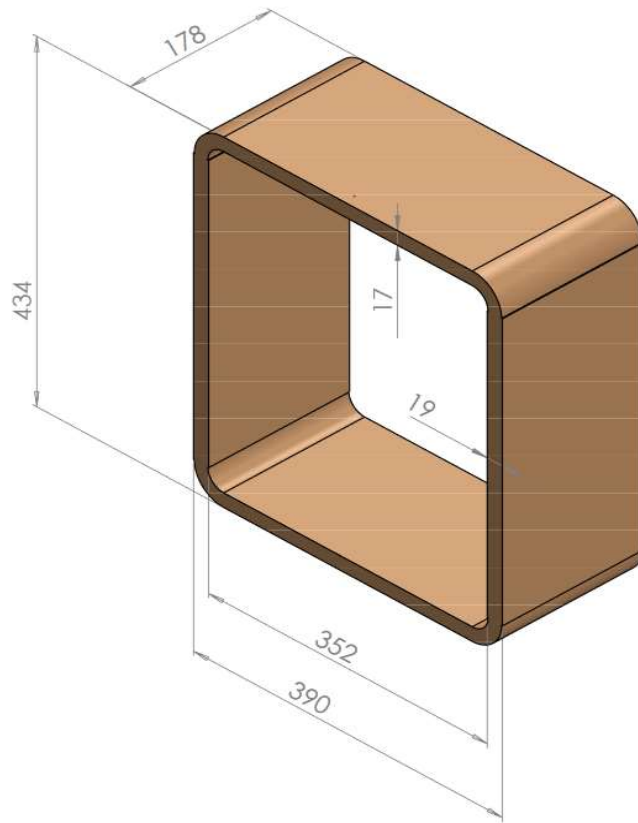


Figure 2: Copper coil

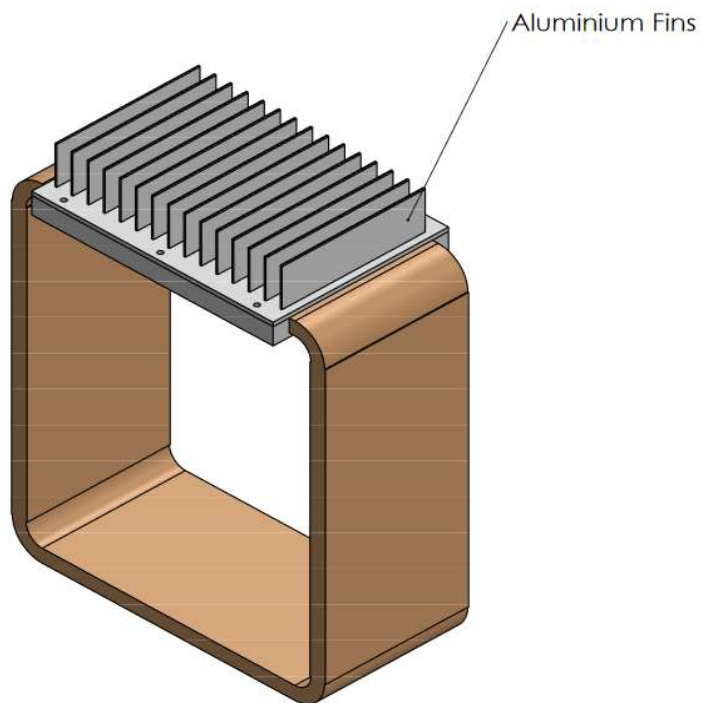


Figure 3: Aluminium fins on top of the coil

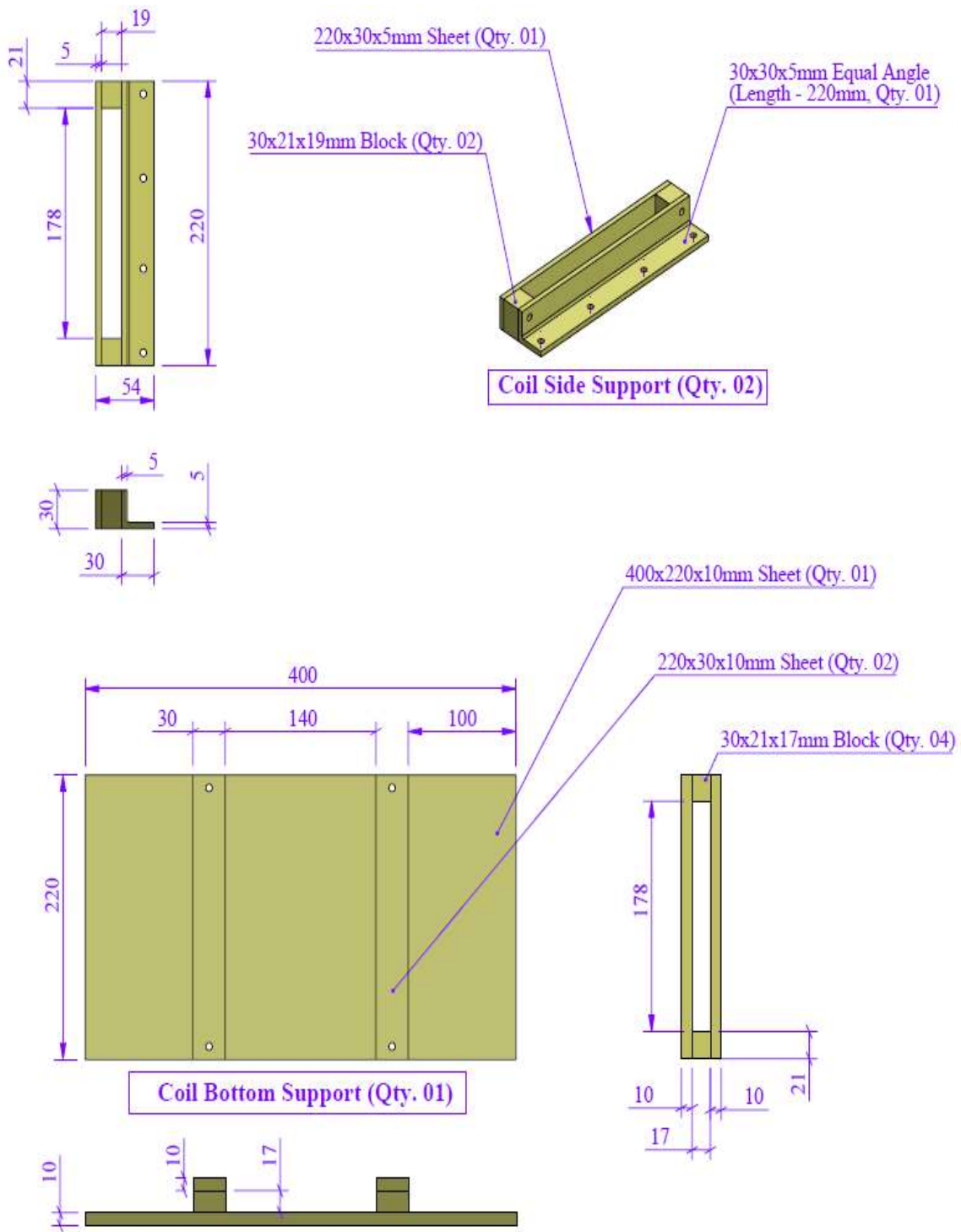


Figure 4: Coil Supports