

**Government of India
Bhabha Atomic Research Centre
Technical Physics Division
Mumbai-400 085**

Purnima Labs
Date: 25/11/2020

Due Date: 08/12/2020

Ref: TPD/XNTS/MF/TP/164

Sub: Fabrication and supply of high voltage dome, beamline support structure and supporting frame for ion accelerator at Purnima lab, BARC.

Dear Sir,

1. Quotations are invited for fabrication and supply of high voltage dome, beamline support structure and supporting frame for ion accelerator at Purnima lab, BARC as per specifications attached herewith.
2. Bidder shall quote for fabrication and supply of these components with material. Taxes shall be quoted separately.
3. The quotation must reach, Head, Technical Physics Division on or before the due date and must be sent in a sealed envelope super scribed with the above reference number and due date given above through **register post/speed post of Indian Postal Services only**.
4. The address on the envelope should read:

The Head, Technical Physics Division
Bhabha Atomic Research Centre
Purnima Labs., Trombay, Mumbai 400085.
Attn: Mr. Tarun Patel

5. The bidder shall have to take an insurance policy against any material issued to him by the purchaser as free issue material.
6. The fabrication work shall be subject to inspection by our representative. The finished components shall not be dispatched prior to approval by our representative at the bidder's works. Necessary inspection facilities should be provided to our engineers during fabrication at bidder's premises.
7. The bidder shall deliver and install the finished components after approval by our representative, within stipulated delivery time from the date of the firm purchase order issued to the bidder. The finished components and the scrap from the free issue material shall be delivered by the bidder at Purnima Laboratory, Technical Physics Division, B.A.R.C., Trombay, Mumbai 400085.
8. Head, Technical Physics Division, BARC, reserves the right to accept/reject any or all quotations without assigning any reason.
9. Detailed drawing if required will be made available after issue of order.
10. Bidder must provide PAN, GST number in the quotation.

(Tarun Patel)
Scientific Officer /F
Technical Physics Division
For and on behalf of President of India

General Specifications

1.0. Quality surveillance, inspection and inspection report:

1.1. All work covered by the specification shall be subject to quality surveillance by the purchaser or his authorized representative for which purpose the fabricator shall allow access at all reasonable times during manufacture to:

1.1.1 the premises in which the work is being carried out;

1.1.2 the drawings and/or tooling involved

1.1.3 gauges, inspection instruments etc. required for inspecting the work.

1.2. Inspection and tests shall be carried out by the fabricator as per the requirements detailed in the drawings and these specifications.

1.3. The fabricator shall submit three copies of inspection reports to the purchaser for approval if requires.

1.4. Components found unsatisfactory as to workmanship or material shall be removed by fabricator and replaced by components which are satisfactory.

1.5. Fabricator shall use materials as specified by the purchaser and submit to the purchaser, the material test certificate for approval.

1.6. The finished components shall not be dispatched prior to approval by our engineer at bidder's works.

2.0. Delivery

2.1 The bidder shall deliver the finished components after approval by our engineer within the delivery period mentioned in the firm purchase order issued to the bidder.

3.0 Sub contract

The fabricator shall not sub-contract any or all the work without written consent from the purchaser. The fabricator shall be responsible to the purchaser for all work of the subcontractor of the fabricator, if allowed by the purchaser.

4.0 Tax

4.1 Except GST no other taxes are payable.

4.2 Income tax @ 2% will be deducted from the bill.

5.0 Delivery: All materials should be delivered to **Purnima building, BARC, Trombay, Mumbai -400 085.**

Technical Specifications:

1. Scope of supply:

The supplier has to design, fabricate and supply the high voltage dome, beamline support structure and supporting frame as per specifications given below.

2. Description:

High voltage (HV) dome, beamline support structure and supporting frames are required for an ion accelerator installed at Purnima labs, BARC. High voltage dome is used for housing of an ion source which is kept floating on 300 kV DC potential. HV dome is insulated with 3 stage insulators with corona guard rings. Support structure and supporting frames are required for beamline vacuum components support and their alignment.

3. Detail scope of supply:

High voltage dome:

- i. High voltage dome material: SS 304 pipes. Size: 1500 mm x 1500 mm x 1250 mm
- ii. Base plate material: Aluminum, size: 1335 mm x 1335 mm x 10 mm.
- iii. Top plate material: Aluminum, size: 1335 mm x 1335 mm x 2 mm
- iv. Corona guard rings material: SS 304 pipes, size: 1500 mm x 1500 mm x 75 mm
- v. Base leg material: MS, size: 310 mm (H) x 170 mm (D)
- vi. M20 bolts material: SS, length: 70 mm
- vii. Weight capacity: 500 kg.

Beamline support structure:

- i. Material : Aluminum 90 mm x 60 mm profile
- ii. Size : 1700 mm (L) x 690 mm (W) x 1155 mm (H)
- iii. Weight capacity: 500 kg.
- iv. Arrangement should be provided for fitting support structure on the floor.

Supporting frame:

Supporting frames are required for vacuum components with NEC 8" OD and 6" OD flanges support and their alignment.

- i. Material : 25 mm square rod
- ii. NEC 8" flange support frame size: 500 mm (H) x 690 mm (W) x 25 mm (T)
- iii. NEC 6" flange support frame size: 475 mm (H) x 690 mm (W) x 25 mm (T)

Other requirements:

- i. Dimensional accuracy for all components should be with ± 1 mm.
- ii. All edges should be properly polished and free from burr to avoid corona discharge.
- iii. Aluminum components should be anodized with color approved by indenter.
- iv. All MS components should be powder coated with color approved by indenter.
- v. All screws and nuts should be made of SS.
- vi. Material, dimensions and quantity of all components are given in enclosed schematic drawing.

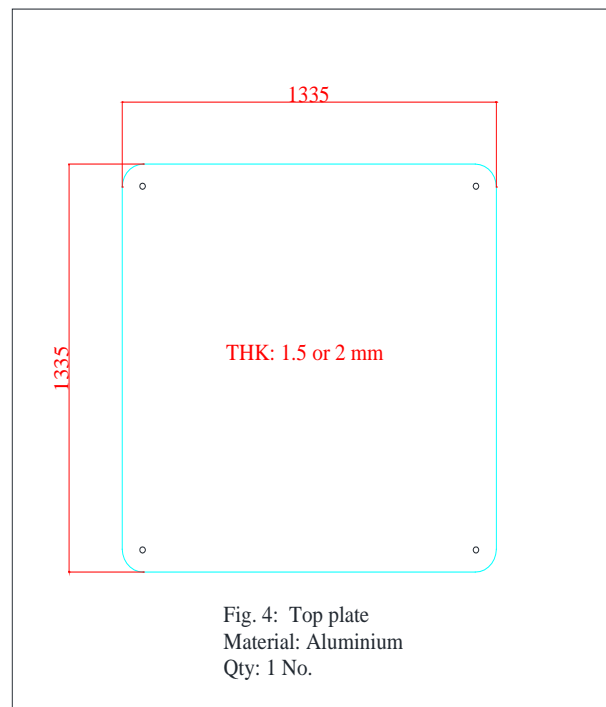
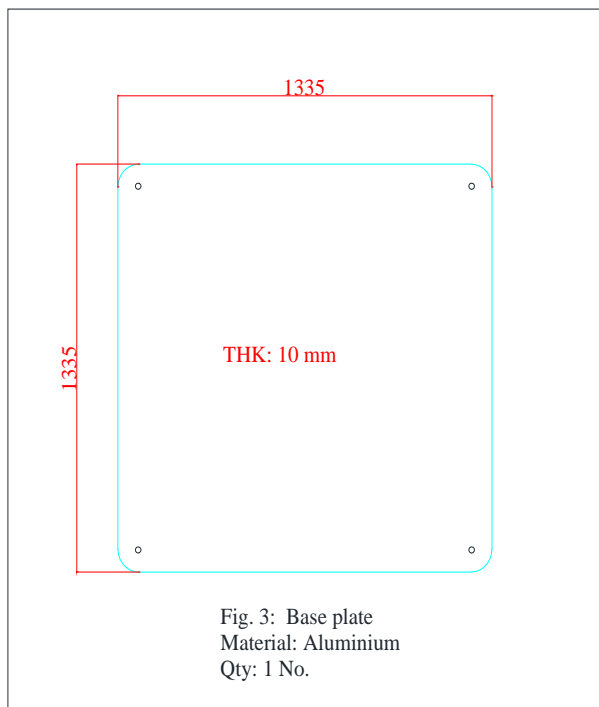
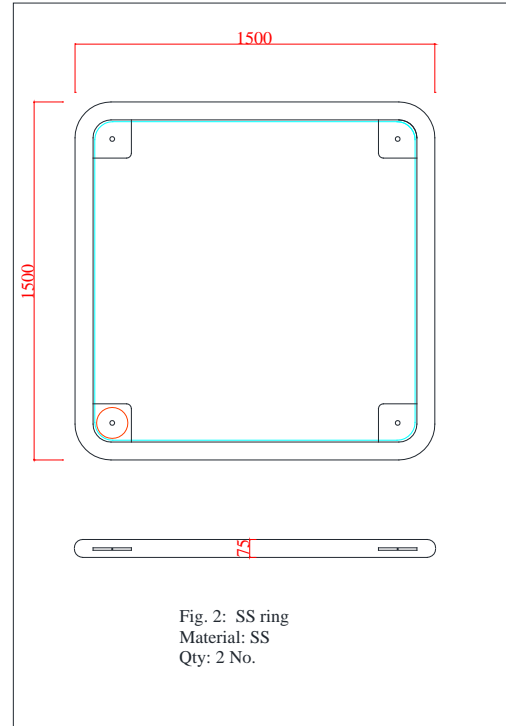
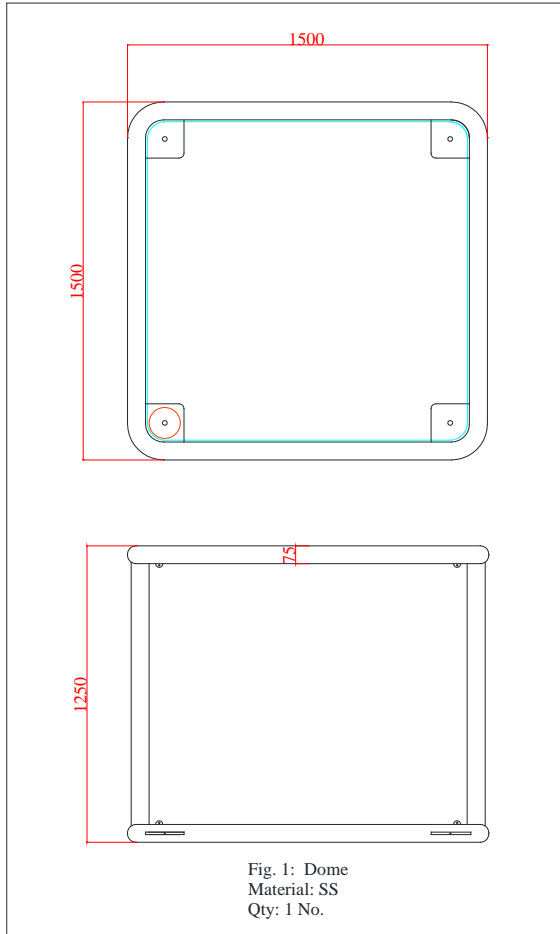
4. Design requirements:

- i. Schematic layouts of high voltage dome, beamline support structure and supporting frame are enclosed.
- ii. Supplier has to make detailed design/fabrication drawings.
- iii. The supplier has to provide CAD drawings for all components to indenter for approval. The final drawing should be got approved by indenter before fabrication.

5. Note:

- i. Stage inspection if required to be decided by the indenter.
- ii. Pre-dispatch inspection of materials will be carried out at supplier's site
- iii. Warranty: Minimum 1 year from the date of delivery.
- iv. Contact [pateltp@ barc.gov.in](mailto:pateltp@barc.gov.in) in case of any clarification required.

Schematic layout of High voltage dome, beamline support structure and supporting frames



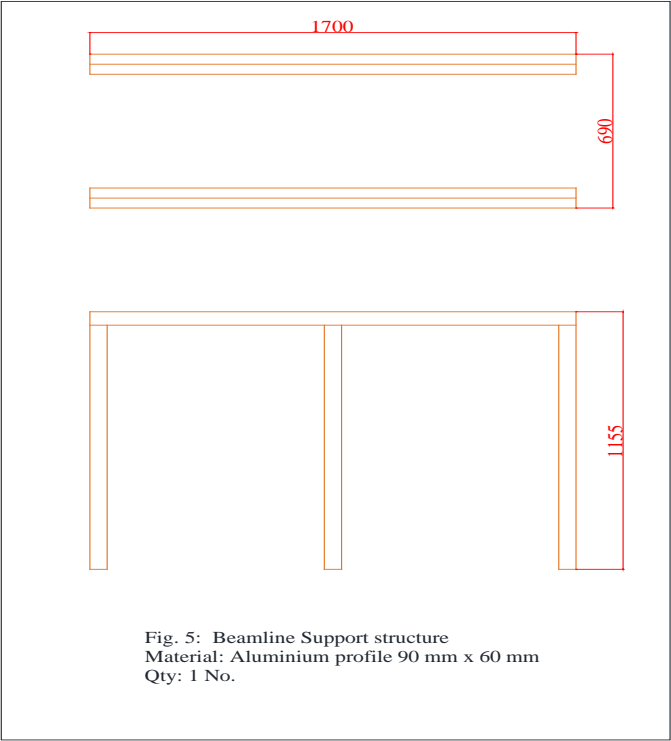


Fig. 5: Beamline Support structure
 Material: Aluminium profile 90 mm x 60 mm
 Qty: 1 No.

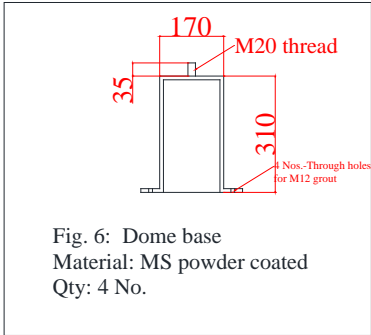


Fig. 6: Dome base
 Material: MS powder coated
 Qty: 4 No.

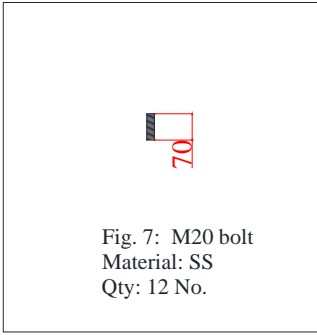


Fig. 7: M20 bolt
 Material: SS
 Qty: 12 No.

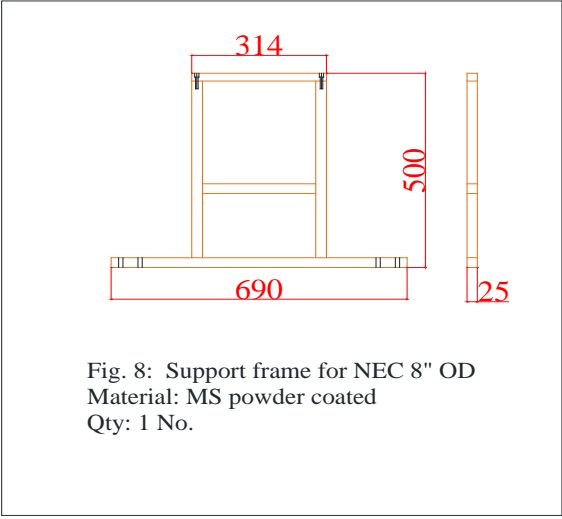


Fig. 8: Support frame for NEC 8" OD
 Material: MS powder coated
 Qty: 1 No.

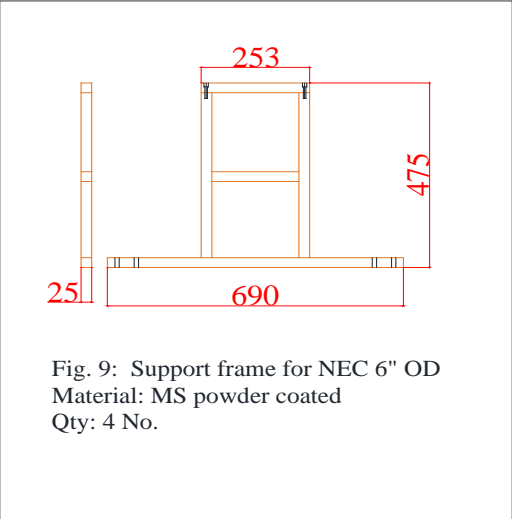


Fig. 9: Support frame for NEC 6" OD
 Material: MS powder coated
 Qty: 4 No.