

Government Of India
Bhabha Atomic Research Centre
ATOMIC FUELS DIVISION

Ref: AFD / FAS / 2019/ 25705

Feb..5, 2019

Sub: Fabrication, packing and supply of Aluminium component as per attached Drawing.

Dear Sir,

Quotation is hereby invited for and on behalf of the President of India for work as mentioned below:

Terms and Conditions:

1. Scope of Work: Fabrication, packing and supply of Aluminium component as per Drawing.
2. Final Requirement:
 - a) Size: As per attached drawing
 - b) Material Aluminium 5052 grade as per attached specification.
 - c) Mechanical Properties:
 - 1) UTS: 17.5 Kg/mm² (min).
 - 2) % Elongation in 25 mm gauge length : 18% min.
 - d) Surface Condition: Free from Scratch, dents and clean. Scratch having depth more than 0.1mm will not be accepted. The outer and inner surface of the tubes shall be properly cleaned and there should not be any oil, grease or any foreign material on the surface. Surface finish should be 1.6 microns or better. There should not be any burr on cut piece.
3. Quantity: 10000 nos. ±5%
4. Dimensions of the finished pieces shall be as per attached drawing.
5. Finished and accepted pieces shall be wrapped in bubble packing for safe delivery. The pieces thus wrapped should be stored in wooden boxes. Each box shall not contain more than 1000 pieces.
6. You should send 50 nos. of finished pieces to us for inspection. Bulk production shall be taken up only after clearance of these 50 pieces.
7. Inspection will be carried out on sample basis. 3% of the total submitted will be inspected randomly. The acceptance or rejection of whole lot will depend upon the acceptance or rejection of these sample pieces.
8. Raw material for these pieces shall be procured by the vendor from reputed Indian Aluminium Extruders only. You should furnish the requisite test certificates as mentioned in Material specification sheet.
9. There is no Free issue material (FIM).
10. Vendor shall make dimension report of the finished pieces and submit it for inspection to our representative.
11. The vendor shall clearly indicate following in the quotation.
 - Net price
 - Delivery charges if any, should be indicated separately

- Taxes & duties applicable , if any
 - PAN No. / GST or Service Tax Registration No.
12. Quotation must be typed on the printed letter head.
 13. Completion period: One month from the date of the work order.
 14. Declaration stating whether you are ex-employee of BARC/DAE and whether you have any employee on your roll, who is an ex-employee of BARC/DAE.
 15. Sealed envelope containing quotation shall be super-scribed as "Quotation for Fabrication, packing and supply of Aluminium component" due on 28/2/2019. Quotation must be sent by **speed post/registered post only** and should reach to us on or before 28/02/2019.
 16. Payment will be made only after completion of work. You should submit the delivery challan, bill/invoice, GST Undertaking (as attached), and duly filled ECS form.
 17. The taxes as applicable will be deducted from your bill.


You are requested to submit your offer for same in sealed envelopes super-scribed "Quotation for Fabrication, packing and supply of Aluminium component" due on 28/2/2019 along with reference no. The quotation shall reach us on or before 28/02/2019 and shall be addressed to the undersigned.

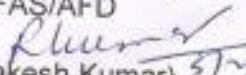
R K Srivastava

Atomic Fuels Division

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(R.K. Srivastava)
FAS/AFD


(Rakesh Kumar) 5/2/19
Head, FAS, AFD

- Encl: 1. Annexure of confidentiality clause
2. Specification of Material.
3. Drawing of the component

Material Specification for Al Component

1.0 Scope

This specification defines the requirements of material for component. The Component is machined using Aluminum alloy, Grade AA 5052 (57S) conforming to the requirements specified in ASTM- B- 221, temper condition - O/M/F.

2.0 Manufacturing

The rod shall be manufactured by Hot Extrusion Route and shall be homogenized. Manufacturing Lot is defined as rods made from same heat of material, fabricated through same working schedules and heat treated in one batch.

3.0 Technical Requirements

3.1 Chemical Composition

The chemical composition limits in lot sample are as specified below:

Element	Limit ¹
Boron	20 ppm (max)*
Chromium	0.15 – 0.35 %
Copper	0.10
Iron	0.40
Manganese	0.10
Silicon	0.25
Zinc	0.10
Magnesium	1.7% - 2.2%
Aluminium	Balance

¹ Limits are in max weight % unless shown as a range, or stated otherwise.

Other elements shall be individually 0.05% max and in total 0.15% max.

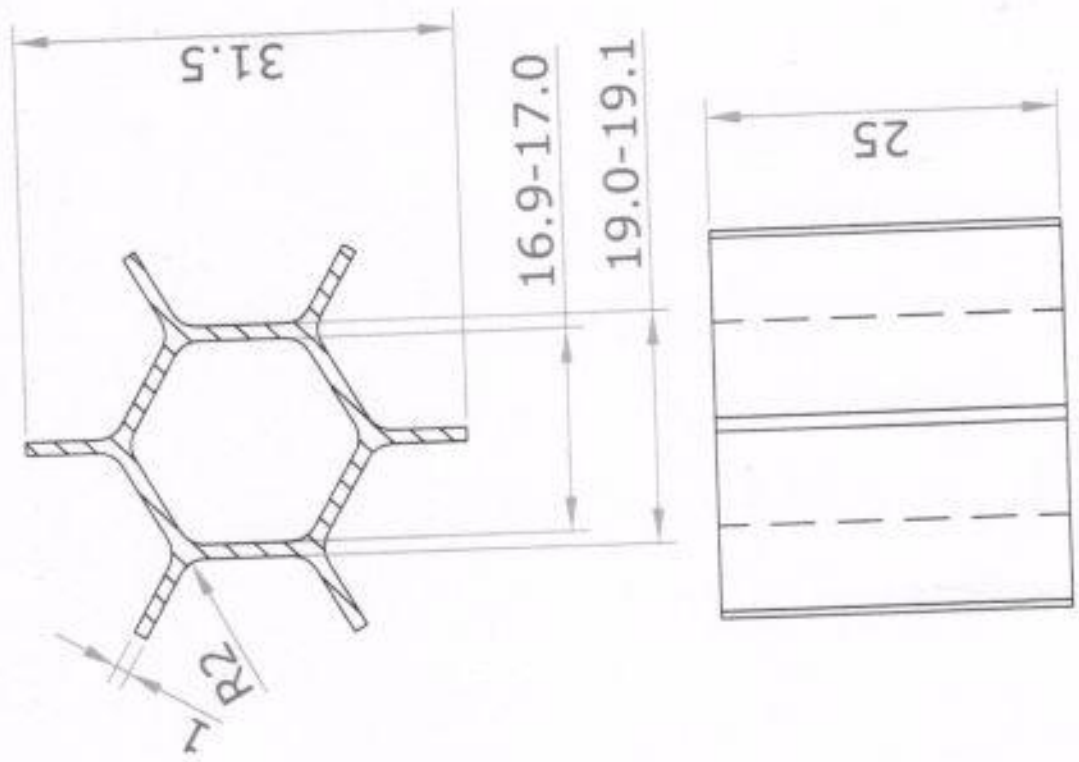
*10 ppm will be preferred

3.2 Mechanical Properties

Two samples (one from top portion and other from bottom portion) from each extrusion / heat treatment lot shall be tested at room temperature in accordance to ASTM-E-8 (with 25 mm gauge length). The tubes shall have the following tensile properties in the longitudinal direction:

U.T.S.	:	170 MPa (min.)
Y.S.	:	70 MPa (min.)
% Elongation	:	18% (min.)

FINISHED PIECE SECTION



ALL DIMENSIONS ARE IN MM.

GEN.TOL. ±0.2 ON LENGTH.
±0.1 ON DIA.