

INSTITUTE FOR PLASMA RESEARCH

An Aided institute of department of Atomic Energy, Govt. of India)
Near Indira Bridge, Bhat. DIST.GANDHINAGAR - 382 428 (INDIA)
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MINOR FABRICATION WORKS ENQUIRY

Office Copy

ENQUIRY NO :IPR/MFW/22-23/146

Date : 05-08-2022

Due Date : 28-09-2022 13:00 IST

Please send your offer in sealed envelope specifying Inquiry No, Date & Due Date, ALONG WITH your credentials for the following items:

Important Note:

Please note that e-mail quotations are not acceptable however you may send your queries (if any) to **rajendra@ipr.res.in**

Please Ensure that your sealed quotation reaches this office not later than above mentioned due date and time.

Kindly go through the following document properly before Quoting which are available on the IPR web portal i.e., <http://www.ipr.res.in/documents/tenders.html/> attached here with.

1. Technical specification as enclosed.
2. Instruction to the bidders & terms and Condition (refer Form NO:**IPR-MFW-01-V1**)
3. Bidding format(refer Biddingformat MFW-Bid.pdf)

GST fro Goods and Services (IGST/CGST/SGST TAX BENEFITS): PLEASE REFER clause no:8 of Form No:**IPR-MFW-01-V1**

QUOTATION SHOULD BE ADDRESSED TO **E. RAJENDRA KUMAR** ONLY.

Sr.No.	Description	Quantity	Rate
1	Fabrication, Testing and Supply of I-Shape Aluminum Alloy Structure	2	No.

Free Issue Material

Sr.No.	Description	Quantity	Unit	Value
1	Not Applicable	0.00		0.00

Note : Please quote with complete technical details (Technical Compliance sheet and product data sheet)

Encl:As per attachment



Sd/-

E. RAJENDRA KUMAR
Scientific Officer-H

Technical Specifications for “Fabrication, Testing and Supply of I-Shape Aluminum Alloy Structure”

1. Description

An I-shape structural component made of aluminium alloy is to be fabricated, tested and supplied to IPR. The structure is made of five major parts as shown in the fig-1. This specification document describes the details of its fabrication, testing and deliverables. Applicable engineering drawings are given separately along with this specifications document.

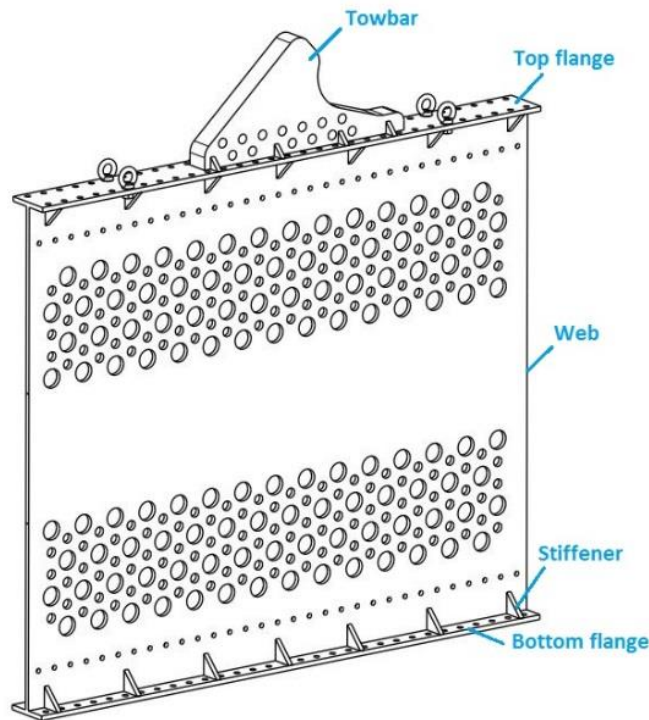


Fig 1: I-shape Aluminium Alloy Structure

Total 2 numbers of units are in the scope of supply. After their testing at factory, the dispatch clearance would be issued by IPR. Both the units have to be then packed properly and delivered to IPR. The delivery period is 4 months from the date of release of work order.

2. Scope of work

The scope of work shall include following:

- 2.1 Preparation of fabrication drawings based on the technical specifications and engineering drawings (Drawing No. IPR/ATD/MDS/I-Shape Structure) as provided in the tender documents, and its submission to IPR within one month (preferably a soft copy in pdf format) after receipt of work order.
- 2.2 DXF file can be shared, if requested by vendor, after placing of work order.
- 2.3 Make modifications in drawings if necessary, as per IPR comments and submit to IPR for Approval.
- 2.4 Vendor shall submit the test certificates of the procured materials from a certified NABL lab to IPR for approval.
- 2.5 Fabrication / manufacturing of components shall be as per approved drawings.

- 2.6 Vendor shall consider appropriate raw material thickness so that after machining all the tolerances (including flatness & Perpendicularity) met as specified in engineering drawings.
- 2.7 Perform factory testing as specified in Factory Acceptance Test (FAT) in presence of IPR representatives.
- 2.8 After the acceptance of FAT reports, IPR will provide dispatch clearance for its delivery. After obtaining dispatch clearance from IPR, vendor shall deliver the components to IPR with suitable packing, to ensure that no damage, and deformation occurs during handling and its transport.
- 2.9 Site Acceptance Tests at IPR will be carried out by IPR staff in presence of vendor's representative.

3. Material specifications (Aluminium alloy)

Table 1: Material properties of Aluminium alloy

Sr. No.	Parameter	Specifications/ typical parameters
1.	Material	Aluminium alloy (grade 6082-T6/T651) (EN AW-6082)
2.	Surface Finish	The surface of the final product must be free from any kind of defects, wrinkles, cut marks, cracks etc.
3.	Chemical Composition	*as per BS-EN-00573-3
4.	Density	2.7 g/cm ³
5.	Ultimate Tensile Strength (@ RT)	*Min 310 MPa (BS-EN-00755-2)
6.	Yield Strength (YS0.2%) (@ RT)	*Min 260 MPa (BS-EN-00755-2)
7.	Hardness (Brinell No.)	95 HV (BS-EN-00755-2)

* Sample Test certificates (from NABL certified lab) for the chemical composition and tensile strength of the procured material shall be submitted to IPR for the approval of the material.

4. Fabrication requirements

4.1. General requirements

- i. Fabrication shall be carried out based on drawings/specifications duly approved by IPR.
- ii. It is to be ensured that all sharp corner & edges must be chamfered/filleted as specified in the engineering drawings.
- iii. For safe handling of the components, vendor shall use only the eye bolts which are provided on flanges of the component for lifting purpose.

4.2. Welding

All the welding shall be performed in clean and dust free environment. The weld joints (wherever mentioned in engineering drawings) are continuous throughout the entire length, and they will be checked and qualified as mentioned in FAT. For welding, appropriate filler material shall be used for the joints as per ASME BPVC section IX article IV.

5. Factory Acceptance Tests

Following inspection/ tests will be carried out at vendor's site in presence of IPR representatives.

- 5.1. Dimensional checks would be carried out as per fabrication drawings (preferable with digital Vernier/screw gauge).
- 5.2. Visual inspections will be carried out for weld size, transition, undercut, inadequate penetration, weld spatter, surface cracks etc.
- 5.3. Dye penetration test (DPT): to check and qualify the joints, DPT shall be performed on the finished components. The test shall be conducted by a NABL certified lab and the report shall be submitted to IPR for the approval.
- 5.4. Flatness and Perpendicularity shall be checked by means of dial or any other appropriate gauge. All the measuring points along the surface of the part shall be within the tolerance zone as specified in the engineering drawings.

6. Deliverables

Following is the list of deliverables;

Table 2: Deliverables

Sr. No.	Description	Quantity
1.	I-Shape Aluminum Alloy Structure	2 Nos.
2.	All the FAT reports	1 Set

7. Packing and supply

IPR shall provide Dispatch Clearance after the acceptance of the FAT reports. Vendor shall initiate the packing only after the receipt of Dispatch Clearance from the Purchase Officer, IPR. Vendor shall pack all the components suitably to avoid any damage or deformation during handling & transportation. The vendor is responsible for packing, transport and delivery to IPR.

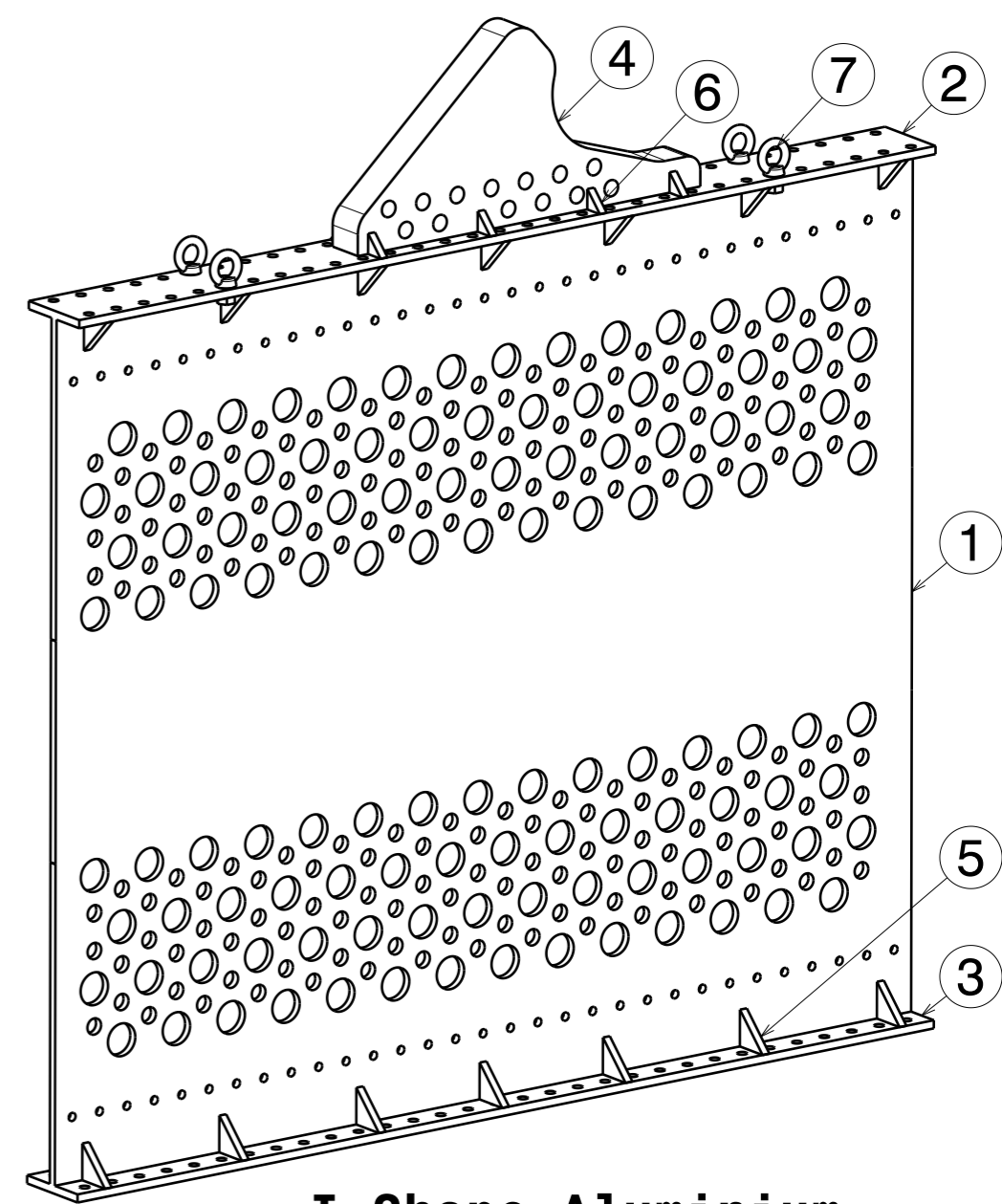
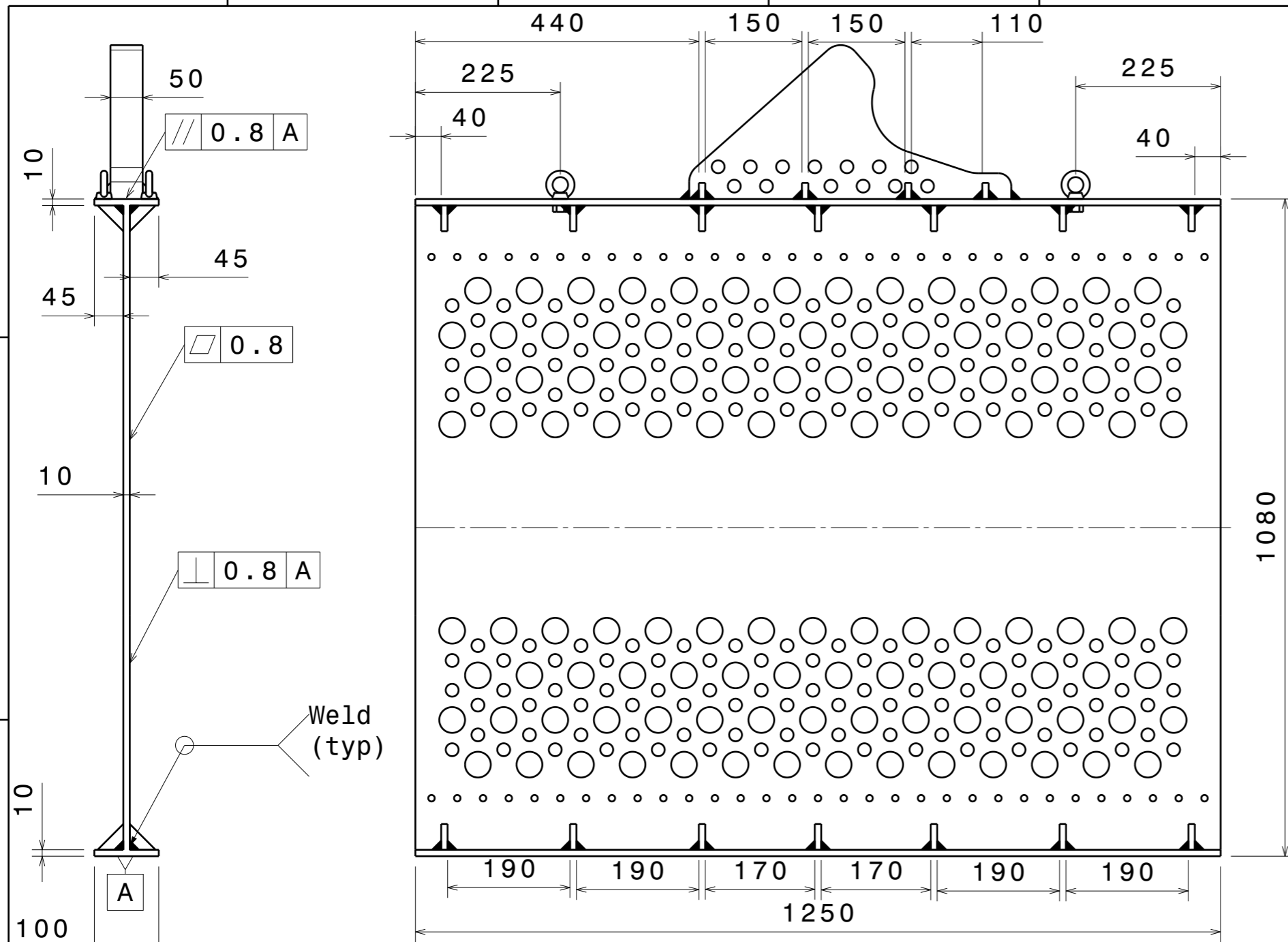
8. Site Acceptance Tests (SAT) at IPR

Following inspection/tests shall be carried out as a part of site acceptance by IPR staff in presence of the vendor's representative:

- 8.1 Visual inspection to check for any damage
- 8.2 Overall dimensional checks.
- 8.3 Flatness and Perpendicularity will be checked by means of dial or other appropriate gauge. All the measuring points along the surface of the part shall be within the tolerance zone as specified in the engineering drawing.

**Technical Compliance Statement for “Fabrication, Testing and Supply of
I-Shape Aluminum Alloy Structure”**

Sr. No.	IPR requirement	Vendor’s response
1.	Deliverables: Two units of I-Shape Aluminum Alloy Structure shall be fabricated, tested and deliver as per technical specifications.	Two units of the structure will be fabricated, tested and deliver as specified / -----
2.	Scope of work: Refer section 2 of technical specifications and confirm the scope of work as mentioned is acceptable	We do confirm / -----
3.	Material specifications: The vendor has to submit test certificates for chemical composition and tensile strength for the alloy as asked in section 3 of technical specifications	Test certificate will be provided as specified / ----- ----
4.	Fabrication requirements: Components shall be fabricated considering fabrication requirements as mentioned in technical specification	We do agree /-----
5.	Factory Acceptance Test (FAT) at vendor’s test site: Dimensions check, Visual Inspection, Dye penetration Test, and test for Flatness and Perpendicularity will be performed as mentioned in FAT clause of technical specifications	We do agree for the FAT as specified / -----
6.	Packing and Supply: All the components shall be safely delivered to IPR without occurring any damage/deformation to the components during transport.	We do agree /-----
7.	Site Acceptance Test (SAT) at IPR: Visual Inspections, Dimensional check, and Flatness and Perpendicularity will be checked by IPR staff.	We do agree for SAT / ---
8.	Delivery Period: All the components shall be delivered within 4 months from the date of PO	Delivery will be within 4 months /-----



I-Shape Aluminium Alloy Structure

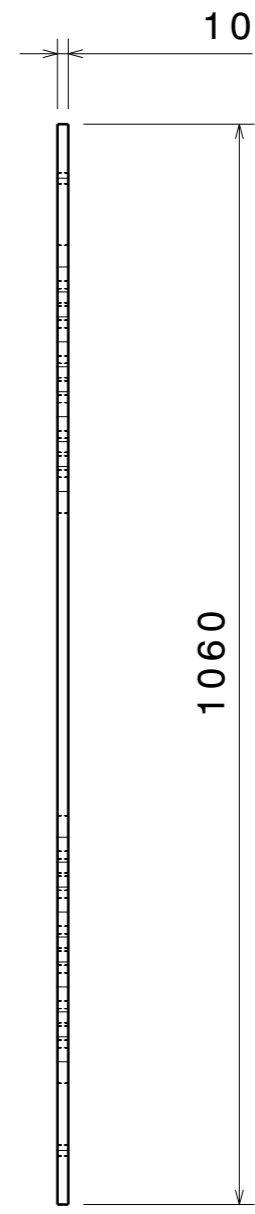
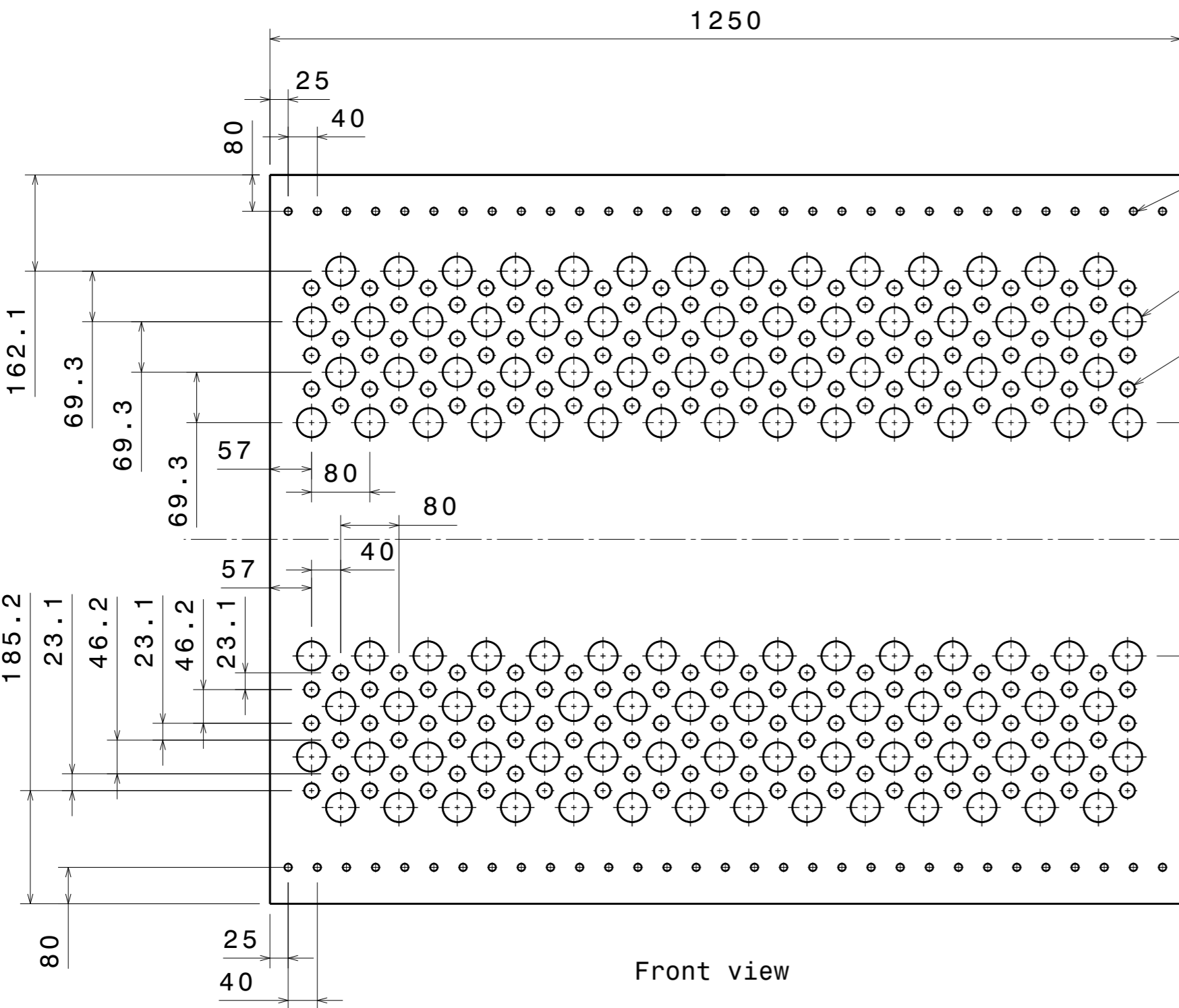
Part No	Description	Material	Qty (Nos)	Remarks
1	Web	Aluminium alloy (grade 6082-T6/T651)	1	Refer Sheet 2 for detail drawing
2	Top Flange	Aluminium alloy (grade 6082-T6/T651)	1	Refer Sheet 3 for detail drawing
3	Bottom Flange	Aluminium alloy (grade 6082-T6/T651)	1	Refer Sheet 3 for detail drawing
4	Towbar	Aluminium alloy (grade 6082-T6/T651)	1	Refer Sheet 4 for detail drawing
5	Stiffener 45x45	Aluminium alloy (grade 6082-T6/T651)	28	Refer Sheet 4 for detail drawing
6	Stiffener 25x25	Aluminium alloy (grade 6082-T6/T651)	8	Refer Sheet 4 for detail drawing
7	Eyebolt	Mild/Stainless Steel	4	M10 eyebolt with M10 Nut (L-25mm)

Side View

Front view

All sharp edges shall be chamfered to C1

DRG.NO	▽ 8-25	▽▽ 1.6-8	▽▽▽ 0.025-1.6	▽▽▽▽ < 0.025	REVISION COLUMN					ASS'Y GROUP/ DIVISION:	SIZE A3	INSTITUTE FOR PLASMA RESEARCH BHAT, GANDHINAGAR-382 428. INDIA				
CO-ORDINATED BY					REV	ZONE	DESCRIPTION	DATE	REMARKS	APPROVED BY	SCALE		NTS	DATE	TITLE	
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS												I-Shape Aluminium Alloy Structure				
LENGTH IN mm OF SHORTER SIDE OF ANGLES				LENGTH OR DIA	UPTO 6	6-30	30-120	120-500	500-1000	>1000	DRAWN		Ankur	20-07-22	REF DRG NO:	REV 00
UPTO 10	10-50	50-120	OVER 120-400		±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	CHECKED		Arvind	20-07-22		
±1°	±0°-30'	±0°-20'	±0°-10'								APPROVED		DRG.NO	IPR/ATD/MDS/I-Shape Structure	SHEET 01 OF 04	


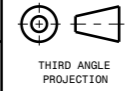


Front view

Side View

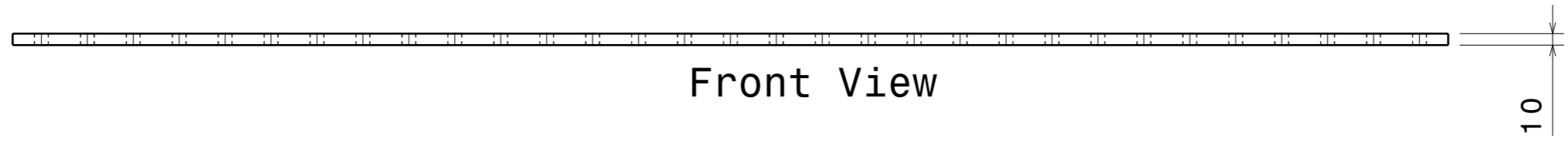
Part -1 Web

Web is symmetric about its horizontal axis

DRG.NO	▽ 8-25	▽▽ 1.6-8	▽▽▽ 0.025-1.6	▽▽▽▽ < 0.025	REVISION COLUMN					ASS'Y GROUP/ DIVISION:	SIZE A3	 INSTITUTE FOR PLASMA RESEARCH BHAT, GANDHINAGAR-382 428. INDIA					
CO-ORDINATED BY					REV	ZONE	DESCRIPTION	DATE	REMARKS	APPROVED BY	ALL DIMENSIONS ARE IN 'mm' UNLESS OTHERWISE STATED		SCALE NTS DATE	TITLE I-Shape Aluminium Alloy Structure			
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS											 THIRD ANGLE PROJECTION	REF DRG NO: IPR/ATD/MDS/I-Shape Structure	REV 00				
LENGTH IN mm OF SHORTER SIDE OF ANGLES				LENGTH OR DIA	UPTO 6	6-30	30-120	120-500	500-1000	>1000		CHECKED	Arvind	20-07-22	DRG.NO	IPR/ATD/MDS/I-Shape Structure	SHEET 02 OF 04
UPTO 10	10-50	50-120	OVER 120-400		+0.1	+0.2	+0.3	+0.5	±0.8	±1.2		APPROVED					

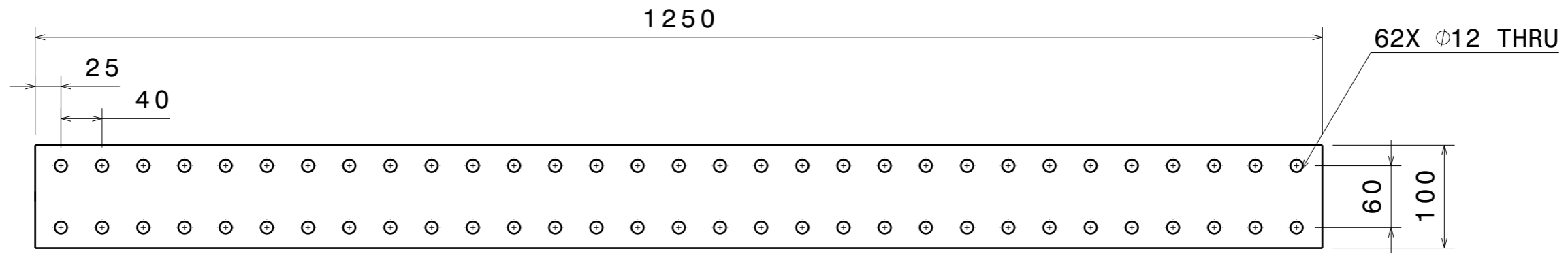


Top View



Front View

Part-2 Top Flange


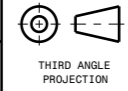


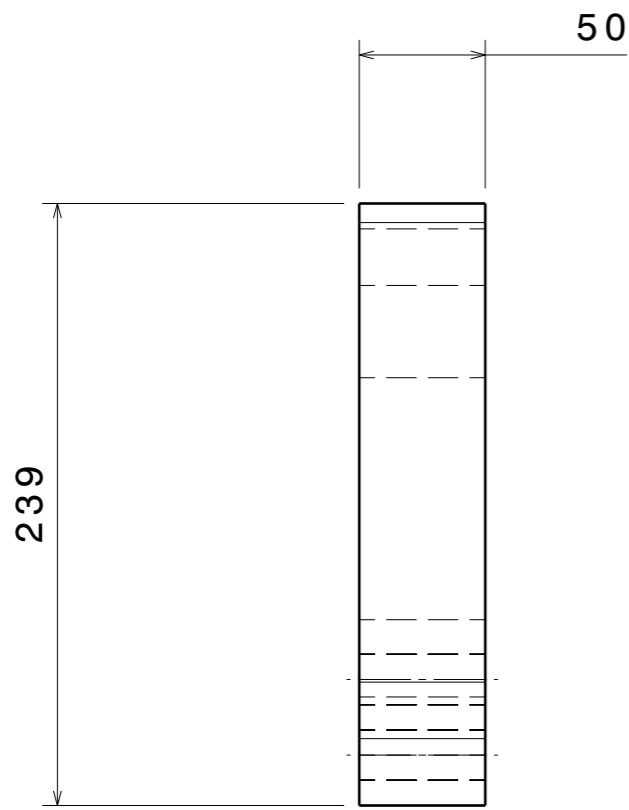
Top View



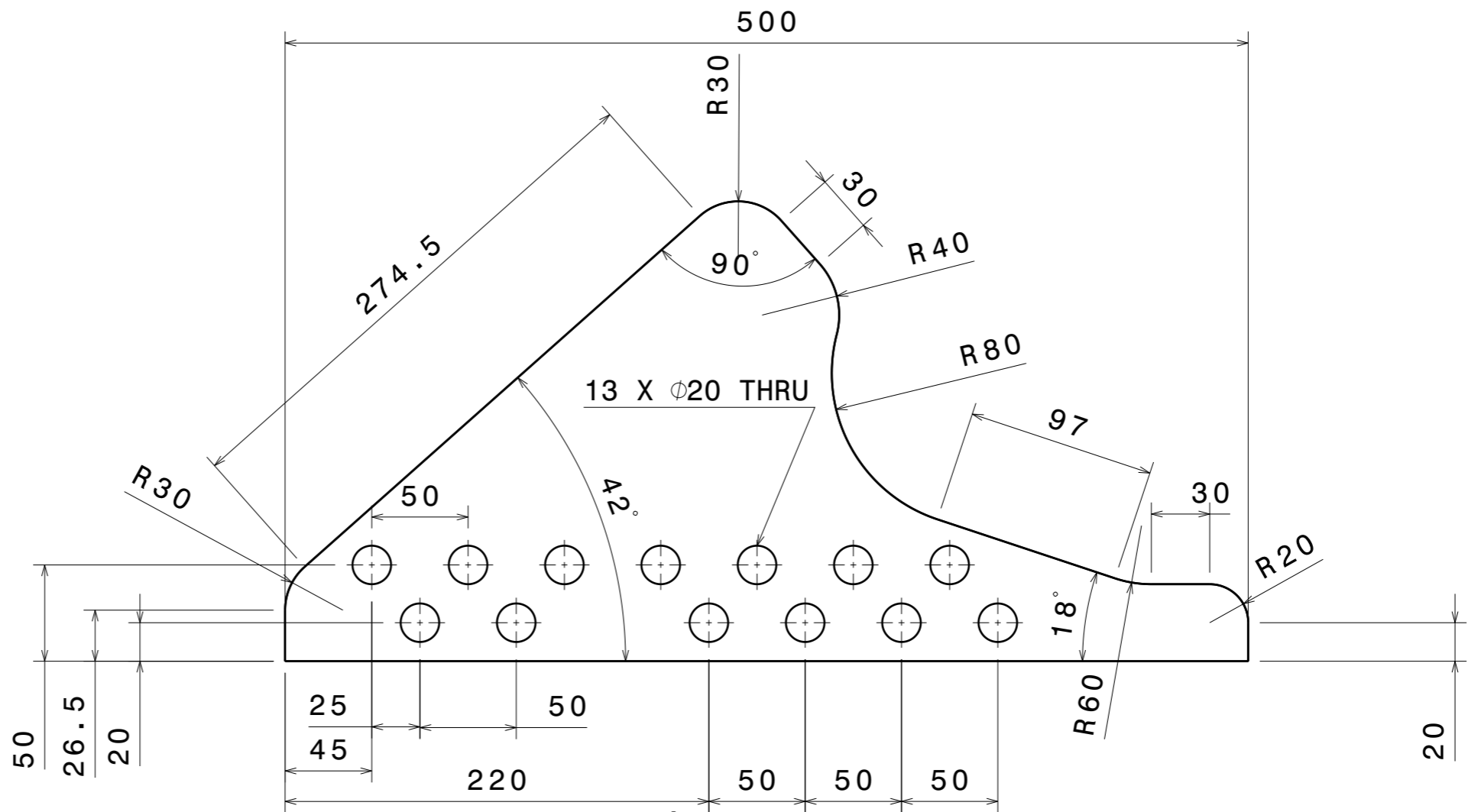
Front View

Part-3 Bottom Flange

DRG.NO	▽ 8-25	▽▽ 1.6-8	▽▽▽ 0.025-1.6	▽▽▽▽ < 0.025	REVISION COLUMN					ASS'Y GROUP/ DIVISION:	SIZE A3	 INSTITUTE FOR PLASMA RESEARCH BHAT, GANDHINAGAR-382 428. INDIA			
CO-ORDINATED BY					REV	ZONE	DESCRIPTION	DATE	REMARKS	APPROVED BY	ALL DIMENSIONS ARE IN 'mm' UNLESS OTHERWISE STATED		SCALE NTS DATE	TITLE I-Shape Aluminium Alloy Structure	
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS												 THIRD ANGLE PROJECTION	REF DRG NO: IPR/ATD/MDS/I-Shape Structure	REV 00	
LENGTH IN mm OF SHORTER SIDE OF ANGLES				LENGTH OR DIA	UPTO 6	6-30	30-120	120-500	500-1000	>1000		DRAWN Ankur 20-07-22	CHECKED Arvind 20-07-22	DRG.NO IPR/ATD/MDS/I-Shape Structure	SHEET 03 OF 04
UPTO 10	10-50	50-120	OVER 120-400		±0.1	±0.2	±0.3	±0.5	±0.8	±1.2		APPROVED			

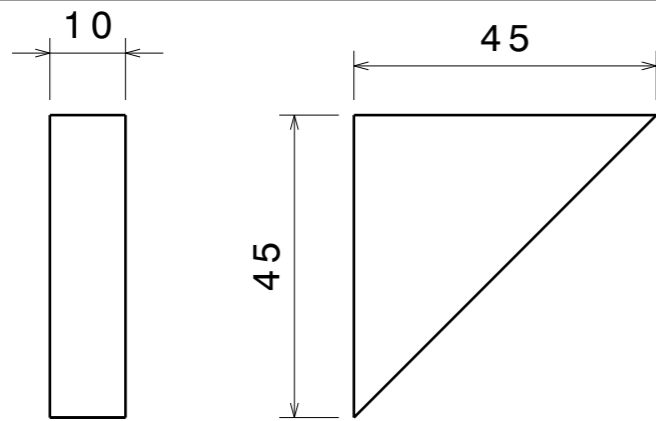


Side View



Front View

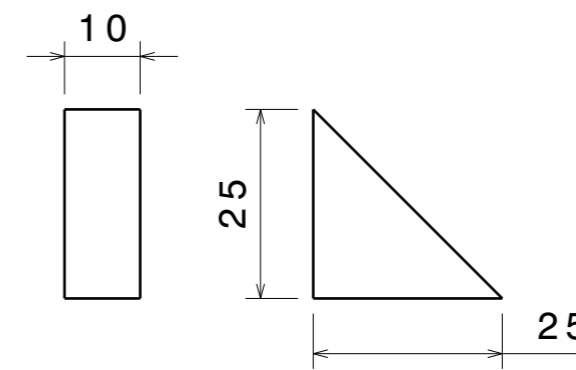
Part-4 Towbar



Side View

Front view


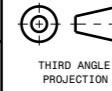
Part-5
Stiffener 45x45



Side View

Front view

Part-6
Stiffener 25x25

DRG.NO	▽ 8-25	▽ 1.6-8	▽ 0.025-1.6	▽ < 0.025	REVISION COLUMN					ASS'Y GROUP/ DIVISION:	SIZE A3	 INSTITUTE FOR PLASMA RESEARCH BHAT, GANDHINAGAR-382 428. INDIA				
CO-ORDINATED BY					REV	ZONE	DESCRIPTION	DATE	REMARKS	APPROVED BY	SCALE		NTS	DATE	TITLE	
MACHINING DEVIATIONS FOR NON-TOLERANCED DIMENSIONS													 I-Shape Aluminium Alloy Structure			
LENGTH IN mm OF SHORTER SIDE OF ANGLES				LENGTH OR DIA	UPTO 6	6-30	30-120	120-500	500-1000	>1000	DRAWN	Ankur		20-07-22	REF DRG NO:	REV 00
UPTO 10	10-50	50-120	OVER 120-400		±0.1	±0.2	±0.3	±0.5	±0.8	±1.2	CHECKED	Arvind		20-07-22		
±1'	±0'-30'	±0'-20'	±0'-10'										DRG.NO	IPR/ATD/MDS/I-Shape Structure	SHEET 04 OF 04	



Form No: IPR-MFW-01.V1

INSTRUCTIONS TO BIDDERS AND TERMS AND CONDITIONS

1. The Quotation and any order resulting from this enquiry shall be governed by our Conditions of Work Order and Contractor quoting this enquiry shall be deemed to have read and understood the same completely.
 2. Where counter terms and conditions have been offered by the Tenderer, the same shall not be deemed to have been accepted by IPR unless our specific written acceptance thereof is obtained.
 3. **Quotation:** Quotation should be submitted in the prescribed QUOTATION FORMAT attached with this Enquiry and the same should be submitted in a sealed envelope super-scribing the same with our enquiry No., date, due date and brief description of item on or before the due date. Late/delayed/incomplete/unsigned quotations will not be considered. Envelopes received without Enquiry number, date, due date and brief description of item may be rejected. The quoted prices should be firm for a period of 90 days from due date for placing order. IPR is not bound to accept lowest rate/s. IPR reserves the right to place on one or more parties. The scope of supply includes insurance by the Contractor.
 4. **Specifications:** Goods should be offered strictly conforming to our specifications/drawings. Deviation, if any, should be clearly indicated by the contractor in their quotation. The Tenderer should also indicate the Make/Type number of the goods offered and catalogues, technical literature and samples, wherever necessary should accompany the quotation. Clarification/s on drawings should be obtained before submitting quotation.
 5. **Terms of Prices:** Quotation should be submitted on door delivery basis without extra charge wherever possible. For quotations on Ex-Works, Ex-godown basis the approximate packing and forwarding charges should be indicated by the contractor. In the case of local contractors, the goods are to be delivered at our stores free of charge.
 - 5.1 In respect of tenders on Ex-works basis, in case the tenderer has not mentioned in the offer packing, forwarding and transportation charges for safe delivery up to Purchaser's site, 2% of the price quoted towards packing (in respect of both local and outstation firms), 1% of the basic price quoted towards safe delivery charges in respect of local tenderer and 3% of the basic price quoted towards safe delivery charges in respect of outstation firm will be added for comparison of offers on safe door delivery at Purchaser's site.
 - 5.2 Prices are required to be quoted according to the units indicated in the tender form/Enquiry. When Quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished
 6. Tender should be free from Correction and Erasures. Corrections, if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail. Unsigned quotations will summarily be rejected. If there is a discrepancy between the unit price and total price, unit price shall prevail.
 7. IPR shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rate quoted.
 8. **Goods & Services Tax (GST):** The details of Taxes/GST and other levies legally applicable and intended to be claimed should be clearly indicated in the tender. Where this is not done, no claim on these accounts would be admissible later.
 - a) **GST for Goods (IGST/CGST/SGST TAX BENEFITS):** As applicable IPR is entitled to avail tax benefit as per the following notifications issued by Ministry of Finance, Department of Revenue, Government of India:
 - (1) No: 47/2017-INTEGRATED TAX (RATE) DATED 14/11/17 for IGST
 - (2) No: 45/2017-CENTRAL TAX (RATE) DATED 14/11/17 for CGSTAnd,
IPR is entitled to avail tax benefit as per the following notifications issued by Finance Department, Government of Gujarat:
 - (1) No. 45/2017-STATE TAX (RATE) DATED 15/11/17 for SGSTAs per above notifications IPR will bear only 5% IGST for procurement of goods from outside Gujarat & 2.5% CGST and 2.5% SGST (total 5%) for procurement of goods within Gujarat. Vendors are required to charge tax as per these notifications while quoting/supplying the goods. Deviations, (if any) should be clearly mentioned in the quotation/offer.
9. **Delivery Date:** Delivery period is essence of the Contract. Contractor must indicate the firm delivery date by which the goods will be dispatched or delivered by them from the date of our order. Delivery period shall be clearly indicated against each item separately.
10. **Price/ Purchase Preference:** Purchase/Price preference to industries will be given as per the policy of the Government of India in force at the time of evaluation provided their offer is in compliance with the conditions of the policy.

Please specify the HSN codes while quoting.

b) GST for Services:

As applicable. **Specify the SAC codes wherever services are involved.**



11. **Liquidated Damages:** The successful Vendor/Bidder should pay liquidated damages @ ½% (half percent) of the total work order value for the delay of each week in the scheduled date of completion of the work envisaged in the Work Order subject to a maximum of 5% (Five percent) of the total Work Order value.
12. **Inspection:** Goods on its arrival at IPR will be inspected by Stores, and his decision in the matter will be final. However, where the items are required to be inspected at the Contractors Premises, Contractor has to give advance notice regarding readiness of the Goods to enable us to depute our representative for inspection.
13. **Payment:** Payment will be arranged for accepted goods only within 30 days from the date of receipt of goods at IPR and bills in our accounts section, completed in all respects.
14. No correspondence will be entertained within 30 days from the date of receipt of good and bills, whichever is later.
15. **Guarantee:** The Stores offered should be guaranteed for a minimum period of twelve months, from that date of acceptance, against defective Goods, design, workmanship, operation or manufacture. For defects noticed and communicated during the Guarantee period, replacement/rectification should be arranged free of cost within a reasonable period of such notifications. In case where our specifications call for a guarantee period more than 12 months specifically, then such a period shall apply.
16. **Performance Bank Guarantee:** If demanded by IPR, the successful bidder will have to furnish Performance Bank Guarantee for 10% of the order value (basic price) from a Nationalized/Scheduled Bank/State Bank of India, valid throughout the Guarantee/Warranty period. The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. Bank Guarantees submitted other than from banks approved by IPR will not be accepted.
17. **Security Deposit:** If demanded the successful Bidder will have to furnish to the Purchaser an interest free security deposit for 10% (Ten percent) of the order value in the form of Bank Guarantee of an equivalent amount from a nationalized/ scheduled Bank/State Bank of India within 15 days from the date of work order and the said Guarantee should be valid till the goods are accepted by IPR. The scheduled banks approved by IPR are Axis Bank, HDFC Bank, ICICI Bank and IDBI Bank. Bank Guarantees submitted other than from banks approved by IPR will not be accepted. The Security deposit shall be forfeited in case the selected Bidder does not start the work within the time limit specified or fail to complete the work within the stipulated delivery period or fail to comply with any of the terms and conditions in the work order. On successful completion of scope of work and its acceptance by IPR, Contractor should send a letter requesting return of the original BG.
18. The Contractor shall at all times indemnify the purchase against all claims which may be made in respect of the stores for infringement of any right protected by Patent Registration of design or Trade Mark and shall take all risk of accidents or damage, which may cause failure of supply from whatever cause arising and the entire responsibility for sufficiency of all means used by him for the fulfilment of the contract.
19. **Free Issue Material (FIM):** Successful tenderer will have to arrange insurance showing beneficiary as "Institute for Plasma Research" at their risk and cost towards adequate security for the materials/property provided/issued by the Purchaser as Free Issue Material for the due execution of the contract.
20. The Director, IPR reserves the right to accept or reject any quotations fully or partly or to cancel the enquiry without assigning any reason.
21. **Jurisdiction:** The contract shall be governed by the Laws of India for the time being in force. The Courts of Gandhinagar only shall have jurisdiction to deal with and decide any legal or dispute arising out of this Contract.

(This need to be printed in Bidders letter head)

1. Please quote with complete technical details along with technical compliance sheet.
2. Quotation should be submitted in the format given below, else IPR shall not consider the offer by the vendor.

NAME OF PARTY : _____

ENQUIRY NO: _____

QUOTATION No. & DATE : _____

Currency of Quotation: **Indian Rupees**

Sr. No.	Item Description	HSN/SAC Code	Quantity	Unit Rate (Basic)	Packaging & forwarding (P&F)	Applicable GST	Rate (incl P&F and GST)	Total Value
			a	b	c	d	e = b + c + d	f = a * e
1								
2								
3								
4								
5								
6								

Sr. No.	Particular	Remarks
I.	Ex-works / FOR Destination	
II.	Freight	
III.	Insurance	
IV.	Delivery Period	
V.	Payment (IPR terms will apply)	
VI.	Guarantee / Warrantee	
VII.	Validity Period	
VIII.	Discount (if any)	
IX.	Remarks	

Place: Authority Signatory

Date: Company Seal

Note:

1. Bidder should submit the copy of GSTIN / ARN Certificate along with the offer
2. Bidder should specify the SUPPLY and SERVICE rates/ charges separately wherever applicable