

भारत सरकार  
अंतरिक्ष विभाग  
सतीश धवन अंतरिक्ष केंद्र शार  
श्रीहरिकोटा रेंज डा.घ. 524 124  
तिरुपति जिला, आं.प्र., भारत  
लैंड लाइन नं : 0862322  
गतिमान नं :  
निविदा सूचना सं. TENDER NOTICE NO. SDSC SHAR/Sr.HPS/PT/RO-VALF/29/2026-27



सत्यमेव जयते

Government of India  
Department of Space  
Satish Dhawan Space Centre SHAR  
Sriharikota Range P.O. 524 124  
Tirupati Dist., AP, India  
Land Line No : 0862322  
Mobile No :

भारत के राष्ट्रपति की ओर से वरि. प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा निम्नलिखित वस्तुओं के लिए ऑनलाइन निविदाएं आमंत्रित करते हैं/On behalf of President of India, Sr. Head Purchase and Stores, SDSC SHAR, SRIHARIKOTA invites on line quotations for the following: -

क्र.सं. SI No	संदर्भ सं. Ref. No.	विवरण Description	मात्रा Qty
01.	SDSC SHAR /VALF PURCHASE /VALF/ 2026000518 SS2 & SS3 Moduling Towers [Public Tender - Two Part]	Fabrication, Machining, Assembly, Delivery of SS2 Moduling Tower	01 Set.
		Loading, transportation from the storage site to the erection site (UAF-II), handling, grouting, erecting, testing, commissioning, performance testing of SS2 Moduling Tower	01 Set.
		Fabrication, Machining, Assembly, Delivery of SS3 Moduling Tower	01 Set.
		Loading, transportation from the storage site to the erection site (UAF-II), handling, grouting, erecting, testing, commissioning, performance testing of SS3 Moduling Tower	01 Set.

निविदा दस्तावेजों को डाउनलोड करने की अंतिम तिथि Last Date for downloading of tender documents : 01.06.2026 at 14:00 hrs.  
ऑनलाइन निविदा जमा करने की अंतिम तिथि Due Date for submission of bids online : 01.06.2026 at 14:30 hrs.  
निविदाएं खोलने की नियत तिथि Due Date for opening of tenders : 01.06.2026 at 16:00 hrs.

**निविदाकार के लिए निर्देश Instructions to Tenderers:**

*निविदाएं ईजीपीएस के माध्यम से ही भेजी जाएं तथा कोई निविदा शुल्क लागू नहीं होगा।  
Bids shall be submitted on line through EGPS only and No tender fee shall be applicable.*

- कार्य के सम्पूर्ण विवरण/जानकारी तथा नियम व शर्तों इत्यादि के लिए संलग्न अनुलपत्रक को देखें। / For full details/scope of work and terms and conditions etc., please see the enclosed annexures.
- इच्छुक निविदाकार इसरो की ई-खरीद वेबसाइट इसरो न्यू ई-प्रोकुरमेंट [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) से ई-निविदा डाउनलोड और अपनी निविदा ई-खरीद पोर्टल पर ऑनलाइन जमा कर सकते हैं। डाक / वाहक / स्वयं द्वारा प्राप्त निविदाओं पर विचार नहीं किया जाएगा। / Interested tenderers can download the e-tender from ISRO e-procurement website ISRO NEW E-PROCUREMENT [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) and submit the offer on line in the e-procurement portal. Offers sent physically by post/courier/in person will not be considered.
- निविदा दस्तावेज इसरो की वेबसाइट [www.isro.gov.in](http://www.isro.gov.in) इसरो न्यू ई-प्रोकुरमेंट वेबसाइट [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) तथा सतीश धवन अंतरिक्ष केंद्र शार की वेबसाइट [www.shar.gov.in](http://www.shar.gov.in) पर भी उपलब्ध हैं। इन्हें केवल ई-खरीद पोर्टल से डाउनलोड और निविदा ऑनलाइन जमा कर सकते हैं। / Tender documents are also available on ISRO website [www.isro.gov.in](http://www.isro.gov.in) ISRO New e-procurement website [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) and SDSC SHAR, Sriharikota website [www.shar.gov.in](http://www.shar.gov.in). The same can be down loaded and offer submitted on line in the new e-procurement portal only.
- निर्धारित तिथि/समय के पश्चात प्राप्त बोलियों पर विचार नहीं किया जाएगा। / Quotations received after the due date/time will not be considered.
- निविदा दस्तावेज दिनांक 01.06.2026 को 14:00 बजे तक डाउनलोड करने के लिए उपलब्ध रहेंगे तथा निविदा ऑनलाइन जमा करने की अंतिम तिथि 01.06.2026 को 14:30 बजे तक है। निविदाएं दिनांक 01.06.2026 को 16:00 बजे खोली जाएंगी। / The tender documents are available for download upto 01.06.2026 at 14:00 hrs. and last date for submission of tenders on line 01.06.2026 at 14 30 hrs. and Tender Opening on 01.06.2026 at 16:00 hrs.
- इच्छुक विक्रेता विवरण जानने के लिए निविदा खोले जाने वाले सत्र में शामिल हो सकते हैं। निविदा के मूल्यांकन पर विचार करने के लिए उनकी उपस्थिति अनिवार्य नहीं है। / Interested vendors can attend the Bid opening sessions to know the details. Presence not mandatory to consider the quote for evaluation.
- वरि. प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा के पास किसी भी या सभी निविदाओं को स्वीकार / अस्वीकार करने का अधिकार है। / Sr. Head, Purchase and Stores, SDSC-SHAR, Sriharikota reserves the right to accept or reject any/or all the quotations.
- GeM ARPTS Report ID: GEM/GARPTS/09042026/2SVLCXHOGVLV  
दिनांक DT: 07.05.2026

वरि. प्रधान क्रय एवं भंडार  
Sr. HEAD PURCHASE AND STORES

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
SATISH DHAWAN SPACE CENTRE SHAR SRIHARIKOTA (SDSC SHAR)  
NELLORE**

**Tender for Procurement, Manufacture, Supply, Erection, Testing & Commissioning of SS2 & SS3 Moduling Towers for UAF Buildings of SLC Project**

**Bids to be submitted online**

**Tender No.: SDSC SHAR/VALF PURCHASE/SH202600051801 dated 08-05-2026**

## **A. Tender Details**

Tender No : **SDSC SHAR/VALF PURCHASE/SH202600051801**

Tender Date : **08-05-2026**

Tender Classification: **GOODS**

Purchase Entity : **VALF PURCHASE**

Centre : **SATISH DHAWAN SPACE CENTRE SHAR SRIHARIKOTA  
(SDSC SHAR)**

### **Procurement, Manufacture, Supply, Erection, Testing & Commissioning of SS2 & SS3 Moduling Towers for UAF Buildings of SLC Project**

GEM/GARPTS/09042026/2SLCXHOGLVL

As per tender documents

#### **A.1 Tender Schedule**

Bid Submission Start Date : **08-05-2026 16:00**

Bid Clarification Due Date : **22-05-2026 10:00**

Bid Submission Due Date : **01-06-2026 14:30**

Bid Opening Date : **01-06-2026 16:00**

Price Bid Opening Date : **30-06-2026 10:00**

## **B. Tender Attachments**

NA

### **Instructions To Vendors**

#### **1. INSTRUCTIONS TO TWO PART TENDER**

1. We are proposing to invite Tenders in Two Parts viz., Part-I Techno and Commercial & Part-II Price. All Tenderers are requested to follow carefully the following instructions before preparing their offer.

##### **PART- I- TECHNO COMMERCIAL BID:**

(1) This part should contain detailed Specifications of the items quoted by you along with Technical Literature and Leaflets if any.

(2) All the Commercial terms and Conditions applicable also should be indicated separately under separate heads.

(3) The Commercial terms such as delivery terms, delivery period, payment terms, warranty, validity of the offer, Installation & Commissioning, Duties and Taxes etc shall come into this.

(4) Either Technical Specifications or Terms & Conditions as above should be very clearly reflected items wise with reference to the items called for in the tender.

(5) Please note that Prices should not be indicated in this part.

(6) Any deviations from the Technical Specifications and Commercial Terms shall be indicated separately.

##### **PART II-PRICE BID:**

(1) The prices applicable for the items, item wise in response to the tender shall come into this part.

(2) Tender shall indicate very clearly item wise prices with reference to their Technical Offer.

Note: 1. PLEASE NOTE THAT THE OFFERS SUBMITTED CONTRADICTORY TO ABOVE INSTRUCTIONS WILL BE LIABLE FOR REJECTION. PLEASE ENSURE OFFERS ARE SUBMITTED WITHIN THE DUE DATE.

2. BEING TWO PART TENDER, WE REQUEST YOU NOT TO DISCLOSE / INDICATE ANY OF THE PRICE VALUE WHILE SEEKING / PROVIDING CLARIFICATION. YOU SHOULD INDICATE ONLY IN PERCENTAGE. IN CASE IF YOU DISCLOSE ANY OF THE PRICE AMOUNT YOUR OFFER WILL BE REJECTED.

#### **2. STANDARD TERMS & CONDITIONS**

1. 1. OUR GST NUMBER: 37HYDF00385A1DZ- SDSC SHAR SRIHARIKOTA

2. Email for communication: psovalf(at)shar.gov.in

3. Instruction to Indigenous Suppliers:

A) Payment Terms shall be as specified in RFP. If not specifically mentioned Our Normal payment term is 100 percent within 30 days after receipt and acceptance of the item at our site. Please confirm

acceptance in your quotation.

**B) Purchase - Price preference to MSEs**

Purchase - Price preference will be applicable to the product reservation admissible to the Micro and Small Enterprises. Purchase - Price Preference shall be extended to the MSEs under the Public Procurement Policy for MSEs formulated under the Micro, Small and Medium Enterprises Development Act, 2006. The participating MSEs in a tender, quoting price within the band of L-1 plus 15 percent may also be allowed to supply a portion of the requirement by bringing down their price to the L-1 price, in a situation where L-1 price is from someone other than an MSE. Such MSEs may be allowed to supply up to 25 percent of the total tendered value. In case of more than one such eligible MSE, the supply will be shared equally.

Micro and Small Enterprises which have technical capability to deliver the goods and Services as per prescribed technical and quality specifications and may not be able to meet the qualification criterion relating to prior experience minus prior turnover may be relaxed as per guidelines issued by Ministry of MSMEs and as amended from time to time.

Interested vendors shall specifically claim the benefit with supporting documents.

**C) Purchase - Price preference to Make-in-India Products:**

Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders - Notifications issued by concerned Nodal Ministry for specific Goods - Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document 50 percent. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rupees 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in-India) order 2017 dated 04.06.2020 and amendments thereof. In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

**D) Instruction to Foreign Suppliers-(if allowed as per RFP)**

a) Payment Terms shall be as specified in RFP. If not specifically mentioned Our normal payment term is SIGHT DRAFT, Please confirm acceptance in your offer, if you insist for L - C, and all bank charges shall be to your account. Confirm acceptance.

b) Please specify whether any export clearance is required in case of an order on you.

c) Warranty - Guarantee applicable for the item shall be mentioned in your offer

d) Special Certification for packing Material : as per Plant Quarantine (Regulation of Control into India) Order 2003, Articles packed with packing material of plant origin namely, hay, straw, wood shavings, wood chips, saw dust, wood waste, wooden pallets, Dunn age Mats, wooden packages, coir pith, pear or sphagnum moss etcetera, will be allowed entry by Customs only with a Phytosanitary Certificate. In case of a Purchase Order, if you propose to us any of the above material for packing such a certificate issued by your local Plant Quarantine Authority shall be furnished.

e) Confirm whether any Export License is required and for which End User Certificate is to be provided

by us, in case of an Order on you. (Enclose format for EUC, if applicable)

f) Either Indian Agent on behalf of the foreign principals or the foreign principal directly can quote against this order, but not both. In either case an Indian agent cannot represent more than one principal against the same tender.

g) In case the quote is in INR we prefer to execute the same on HSS Basis and for which Concessional Customs duty as per Notification number 50 - 2017 Customs dated 30.06.2017, Serial Number 539(A) as amended by Notification number 05 - 2018 dated 25.01.2018 and vide Notification No.05-2025 dt.01.02.2025 and 45-2025 dtd 24.10.2025. In case the quote is on Indian Rupee (Outside High Sea Sale), the price shall include taxes and duties if any. We shall not be able to provide any duty or IGST tax exemption - concession certificates. If the item quote is of USA make, please quote for all-inclusive price since we prefer to get the item on FOR destination basis.

h) Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with Competent Authority as specified in Office Memorandum number F.No.6 - 18 - 2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23rd July 2020. All the conditions mentioned in the above OM is applicable for this tender.

E) Common terms to Indigenous and foreign suppliers:

a.Warranty

You shall provide applicable warranty for the items offered by you without fail. For the applicable period you shall provide necessary warranty certificate.

b.Performance Bank Guarantee

Towards the performance of the systems during the warranty period you shall submit a performance bank guarantee equivalent to 3 percent of the order value to cover the warranty period. This PBG shall be interest free and the same shall be returned to you on successful completion of all contractual obligations. The said PBG shall have a further claim period of 2 months.

c.Security Deposit

On acceptance of the order, you shall submit an interest free amount equivalent to 3 percent of the total contract - order value towards security deposit. This security deposit is collected towards the performance of the Contract. The said Security Deposit shall be submitted either in the form of Bank Guarantee - Demand Draft - FDR receipts duly endorsed in the name of the centre. The Security Deposit will be returned to you on successful completion of the Contractual obligations; failing which it shall be forfeited - adjusted.

4.Offer Validity

Your offer shall be valid for 180 days in case of 2 part - 90 days in case of single part from the date of tender opening. In case your offer validity is less than the mentioned above, the said offer is liable for rejection which may please be noted.

5. Liquidated Damages:

If you fail to deliver the ordered items satisfactorily within the time specified or any extension thereof, Liquidated Damage at 0.5 percent (zero point five percent) of the order value or part thereof the undelivered items for each calendar week of delay shall be recovered from your bill. However total Liquidated Damage shall not exceed 10 percent (ten percent) of the order value.

## 6.FORCE MAJEURE:

Should a part or whole work covered under this contract be delayed in delivery - completion of work due to reasons of Force majeure which shall include legal lockouts, strikes, riots, civil commotion, fire, accidents, quarantines, epidemic, acts of God and War, stoppage of deliveries by the Government, freight embargoes etcetera; the delivery period - completion of work referred to in this Contract shall be extended by a period not in excess of duration of such Force Majeure. The occurrence shall be notified by either party within reasonable time.

Note:

I.Offers received through post, courier, fax or email will not be considered.

II.Technical and commercial bid (Part-I) shall not contain any price details. Optional accessories or other price details, if any shall be uploaded in Supporting documents related to Price Bid, to be opened along with Price Bid.

III.In respect of FIM being issued, the fabricator shall submit Bank Guarantee for equivalent sum compulsorily. In case, submission of Bank Guarantee is not possible, the reasons there for shall be clearly mentioned. However, for such cases the fabricators at their cost shall secure such FIM through Insurance Policy with Director, SDSC SHAR as beneficiary. In case of PSU and Government Organization, Indemnity Bond in lieu of Bank Guarantee is acceptable. Balance FIM - Scrap, if any shall be returned along with the supply of the items. Please confirm acceptance in your quotation.

IV.SDSC SHAR shall have the right to place part order among the parties for the items for which they are the lowest.

V.TERMS AND CONDITIONS IN THE RFP SHALL PREVAIL OVER OTHER TERMS AND CONDITIONS(in case of any contradiction or ambiguity)

## 3. General Instructions to Vendor

### 1. Instructions to tenderers

TeleNo.08623-225174/225127

Fax No.08623-225170/22-5028

e-Mail ID : hps@shar.gov.in, sselvan@shar.gov.in, psovalf@shar.gov.in

1. Interested tenderers may, at their option, login to <https://eproc.isro.gov.in> and submit your offers.

2. TENDER FEE IS NOT APPLICABLE.

3. EARNEST MONEY DEPOSIT IS NOT APPLICABLE IF NOT MENTIONED IN THE RFP SPECIFICATION.

4. Indian agents while quoting on behalf of their principals are requested to attach Principals original quote, necessary authorization letter from their Principals, copy of agency agreement etc. in their bid.

5. TWO PART BIDS: In case of Two part tender, price details shall not be uploaded in the Technical &

Commercial Bids (Part I), failing to which the bid will be treated as INVALID.

6. The offer should be valid for a minimum period of 180 days for 2 part / 90 days for single part from the date of opening.

7. Due date & time: Sufficient time has been allotted for Bid submission. Vendors are requested to complete Bid submission well in advance. Last minute requests for due date extension citing server problems etc. will not be entertained. Bids will not be entertained after the due date and time.

7 (A). Request for the extension of the due date will not be considered.

8.

(a) Bid Opening for Public Tender: In case of Public Tender-Two Part Tenders: Technical and Commercial Bids will be opened on the first day specified for Tender opening. Interested vendors can attend the tender opening session to know the bidding details (Bidders presence is not mandatory to consider the quote for evaluation). Price Bid opening of the selected vendors will be scheduled later and it will be intimated to the selected Bidder (s).

(b) For Limited Tender: Bidders participation is not allowed.

9. Prices are required to be quoted according to the units indicated.

10. Preference will be given to those tenderers offering supplies from ready stocks and on the basis of FOR destination delivery at site.

11. (a) All available technical literature, catalogues and other data in support of the specifications and detail of the items should be furnished as attachments.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of non-acceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensions details are available the same should be indicated in your offer.

(d) Specifications: Stores offered should strictly conform to our specifications. Deviations, if any, should be clearly indicated by the tenderer in their quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples wherever necessary. Test certificates wherever necessary should be attached. Whenever options are called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us the tenderer could suggest changes to specifications with appropriate response for the same.

12. The purchaser 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 quantity offered and the tenderers shall supply the same at the rates quoted.
13. 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.
14. The tenderer will be required to furnish a document containing the name of his bankers as well as the latest income-tax clearance certificate duly counter signed by the Income-tax Officer of the Circle concerned under the Seal of his office, if required by the Purchaser.
15. The Purchaser reserves the right to place order on the successful tenderers for additional quantity up to 25% of the quantity offered by them at the rates quoted.
16. Sr. Head, Purchase and Stores, SDSC SHAR SRIHARIKOTA reserves the right to accept or reject any bid in part or full without assigning any reason thereof.
17. Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with Competent Authority as specified in Office Memorandum no.F.No.6/18/2019-PPD, Ministry of Finance, Department of Expenditure, Public Procurement Division dated 23rd July 2020. All the conditions mentioned in the above OM is applicable for this tender.

## C. Bid Templates

### C.1 Technical Bid - Procurement, Manufacture, Supply, Erection, Testing & Commissioning of SS2 & SS3 Moduling Towers for UAF Buildings of SLC Project

1. STRUCTURAL ITEM :: Fabrication, Machining, Assembly, Shop inspection, Packing, Forwarding, Transportation, Delivery of SS2 Moduling Tower at SLC site including unloading at storage site as per the enclosed specification.

[Document : SS2 Moduling Tower Tender Drawings](#)

[Document : Tender Specifications](#)

2. STRUCTURAL ITEM :: Loading, transportation from the storage site to the erection site (UAF-I), handling, grouting, erecting, testing, commissioning, performance / acceptance testing of SS2 Moduling Tower as per the enclosed specification.

3. STRUCTURAL ITEM :: Fabrication, Machining, Assembly, Shop inspection, Packing, Forwarding, Transportation, Delivery of SS3 Moduling Tower at SLC site including unloading at storage site as per the enclosed specification.

[Document : SS3 Moduling Tower Tender Drawings](#)

4. STRUCTURAL ITEM :: Loading, transportation from the storage site to the erection site (UAF-II), handling, grouting, erecting, testing, commissioning, performance / acceptance testing of SS3 Moduling Tower as per the enclosed specification.

#### Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Detailed Specification sheet enclosed		-		

#### Supporting Documents required from Vendor

##### 1. List of Machinery and Equipment available

- 2. List of employees, qualification and designation**
- 3. Organization structure (Hierarchy) details**
- 4. Work completion certificates for the corresponding POs submitted**
- 5. Income Tax Acknowledgement Receipts for latest Three financial years**
- 6. Profit/Loss statement for latest Three financial years**
- 7. Balance sheet for latest Three financial years**
- 8. PO copies of works carried out satisfying the bid qualification criterias given in Annexure D2**
- 9. UDAYAM Certificate**
- 10. Filled, Signed and Stamped copy of Annexures D1-D7**
- 11. Signed and Stamped copy of Section-A to C**
- 12. MII certificate indicating precentage of local content along with location of value addtion.**

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Party has to ensure that all the items are supplied at SLC PROJECT SITE, MADHAVANKURICHI VILLAGE, OPPOSITE TO KOODAL NAGAR, TIRUCHENDUR TALUK, TUTICORIN DISTRICT, TAMIL NADU - 628703	Yes / No / Explain	
2	Loading, transportation and unloading at site is in the scope of the party	Yes / No / Explain	
3	Party has to obtain prior approval and necessary clearances before dispatching the items to SLC PROJECT SITE.	Yes / No / Explain	
4	The procurement intended for the bonafide use in Systems/Sub-systems of Launch Vehicle Project of Indian Space Research Organization, Government of India, Department of Space and eligible for IGST@5% as per guiding principles conveyed by the Ministry of Finance Dept. of Revenue Notification No. 25/2018-Integrated Tax (Rate) Schedule-I; Sl. No. 243B dated 31.12.2018 (Amendment to Notification No. 07/2018-Integrated Tax (Rate) dated 25.01.2018 and Notification No. 01/2017- Integrated Tax (Rate) dated: 28.06.2017)  End user certificate in this regard shall be issued in the event of PO.	Yes / No / Explain	
5	Please confirm here whether your quoted "UNIT PRICE" in our Price Bid is EXCLUDING GST or INCLUDING GST. ----- NOTE: If you are not clearly stating "GST is Inclusive OR Extra in basic cost" it will be treated as "GST is included in the quoted Basic/Unit cost in the price bid". Your offer will be evaluated as INCLUSIVE OF GST.	Yes / No / Explain	
6	Delivery Term FOR : SLC PROJECT SITE, MADHAVANKURICHI VILLAGE (MANDATORY)	Yes / No / Explain	

7	Packing and Forwarding(P & F) charges, extra if any, please mention percentage in price-bid. Please note that in case of Two part tenders, only percentage should be mentioned otherwise those offers shall be summarily rejected.	Yes / No / Explain	
8	Freight charges, extra if any, please mention percentage in price-bid. Please note that in case of Two part tenders, only percentage should be mentioned otherwise those offers shall be summarily rejected.	Yes / No / Explain	
9	Delivery Period required for delivery of the items/completion of total scope of work: 04 months as detailed in the Annexure to the tender.	Yes / No / Explain	
10	<p>Payment Term: For Supply: a. 80% of supply cost payment against receipt of material at Purchasers/Department site, along with GST. b. 20% of supply cost after successful commissioning &amp; acceptance by Department, equipment and system covered under contract and against submission of Performance bank guarantee</p> <p>For Erection, Testing and Commissioning:  100% of erection cost after successful erection and commissioning in all respect, conducting functional checks (duly accepted by Department) along with GST at departmental site.</p>	Yes / No / Explain	
11	Warranty/Guarantee: Warranty/Guarantee for the offered item shall be from the date of acceptance of the item at our site for a minimum period of one year or specified in the tender document.	Yes / No / Explain	
12	Liquidated Damages (LD) :- Since delivery is the essence of this order, LD @ 0.5% per week or part thereof subject to a maximum of 10% of the order value for the delayed period of supply.	Yes / No / Explain	

13	<p>Security Deposit (SD) 3% value of the order shall be deposited with SDSC within 10 days from the date of the Purchase Order towards security deposit in the form of Bank Guarantee(BG)/ FDR/DD towards performance of the Contract valid till completion of the contract period plus sixty days towards claim period. (This will be returned by SDSC immediately on execution of the order satisfactorily as per order terms. If not, the amount will be forfeited). NOT REQUIRED FOR LANDED COST BELOW RS.5 LAKHS.</p>	Yes / No / Explain	
14	<p>Performance Bank Guarantee (PBG) You have to submit a BG/DD/FDR in lieu of PBG from a Nationalized / Scheduled Bank for 3% of the order value at the time of supply valid till the completion of warranty period plus 60 days towards claim period.</p>	Yes / No / Explain	
15	<p>Combined BG for PBG cum SD In case, if parties are unable to provide two separate BGs, i.e., one for SD &amp; one for PBG, they can submit a combined BG for SD &amp; PBG for 3% of the Order value valid till the completion of total contractual obligation (i.e., Supply period plus warranty period plus 60 days). Please confirm.</p>	Yes / No / Explain	
16	<p>Insurance Being a Govt. Of India Dept., Insurance is not required at our cost. Please ensure the safe delivery of the ordered item with proper transport worthy packing.</p>	Yes / No / Explain	
17	<p>Validity of Offer In case of single part tender - the validity of offers/tenders should be 90 days. In case of two part tender - 120 days from the date of opening of Part-I bid and 60 days from the date of opening of Part-II bid. Tenders shorter than offer validity mentioned above will not be considered for evaluation.</p>	Yes / No / Explain	
18	<p>Mode of selection: Overall L1 will be considered for placement of order.</p>	Yes / No / Explain	

19	<p>The bidder shall provide compliance to Order No. F.No.7/10/2021 PPD dated 23.02.2023 and amendments thereof by Ministry of Finance, Department of Expenditure, Public Procurement Division regarding restrictions on procurement from a bidder of a country which shares a land border with India and comply to all the provisions of the Order. In this regard, you shall certify that the bidder entity is not from such a country or, is from such a country, has been registered with the Competent Authority.</p>	Yes / No / Explain	
20	<p>As per the above Order, are you (the Bidder/Company/Entity) OR offering product/service is from such a Country sharing Land border with INDIA.</p>	Yes / No / Explain	
21	<p>Make-In-India (MII) Clause: Provisions contained in Public Procurement Policy (Preference to Make in India), Order 2017 issued by DPIIT vide OM No. P-45021/2/2017-PP(BE-II) dated 16.09.2020 &amp; directives related including latest amendments (if any) is applicable for this tender.</p> <p>You are requested to provide Self Declaration Certificate that the offered Item meets Local Content Requirement of Class 1 or Class 2 as per Make in India(MII) Policy, clearly indicating the Percentage of local content &amp; the details of Location(s) at which value addition is made in the offered product.</p> <p>It may be noted that Local Content shall not include services such as Transportation, Insurance, Installation, Commissioning, Training and after sales service support like AMC/CMC etc.</p>	Yes / No / Explain	
22	<p>Please mention in PERCENTAGE the Value addition of offered products happened in INDIA in line with Make In India Policy. (Mandatory). You have to upload MII Deceleration mentioning place and percentage of value addition along with Offer.</p>	Yes / No / Explain	

23	<p>Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the BIDDER MUST BE MANUFACTURER OF THE OFFERED PRODUCT in case of bid for supply of goods. TRADERS ARE EXCLUDED from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence along with UDYAM REGISTRATION in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1 plus 15% (Selected by Buyer) of margin of purchase preference/price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total QUANTITY.</p>	Yes / No / Explain	
24	<p>Are you claiming MSME Preference for this tendered item/service?</p> <p>Note: You should have been the MANUFACTURER of the offered product or SERVICE Provider of the said service (in service tender) as per your MSME Registration. (If YES, valid Udyam Registration documents shall be uploaded. Otherwise your claim will not be considered. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h))</p>	Yes / No / Explain	
25	<p>Please Select for the offered Product whether you are:  (1) Manufacturer (2) Authorized Agent (3) Distributor (4) Dealer (5) Reseller (6) Others</p>	Yes / No / Explain	

26	<p>ARBITRATION:- The Contract/PO shall be interpreted, construed and governed by the Laws in India. In the event of any dispute/s, difference/s or claim/s arising out of or relating to the interpretation and application of the Contract/PO, such dispute/s or difference/s or claim/s shall be settled amicably by mutual consultations of the good Office of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties. If such a resolution is not possible, within 30 days from the date of receipt of written notice of the existence of such dispute/s, then the unresolved dispute/s or difference/s or claim/s shall be referred to the Sole Arbitrator appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Act 1996 as amended from time to time. The arbitration shall be conducted in Bengaluru in the Arbitration and Conciliation Centre - Bengaluru (Domestic and International) as per its rules and regulations. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties. The applicable language for Arbitration shall be English only.</p>	Yes / No / Explain	
27	<p>Do you have Unique GeM Seller ID? If YES, provide details If NO, As per Office Memorandum No 6/9/2020-PPD dated 24/08/2020 of Department of Expenditure, it shall be mandatory for sellers providing Goods and Services to Central Government Organizations to be registered on GeM and obtain a Unique GeM Seller ID, at the time of Placement of Order/acceptance of contract. Tenderers shall ensure the same.</p>	Yes / No / Explain	
28	<p>Address on which PO is to be placed and GSTIN</p>	-	
29	<p>Please provide valid/currently using E-mail Id &amp; Contact no. for seeking further clarifications if any</p>	-	
30	<p>Remarks if any.</p>	-	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	P&F IN PERCENTAGE	FREIGHT PERCENTAGE	Remark
1	STRUCTURAL ITEM :: Fabrication, Machining, Assembly, Shop inspection, Packing, Forwarding, Transportation, Delivery of SS2 Moduling Tower at SLC site including unloading at storage site as per the enclosed specification.	1.00 Lot		-				
2	STRUCTURAL ITEM :: Loading, transportation from the storage site to the erection site (UAF-I), handling, grouting, erecting, testing, commissioning, performance / acceptance testing of SS2 Moduling Tower as per the enclosed specification.	1.00 Lot		-				

3	<p>STRUCTURAL ITEM :: Fabrication, Machining, Assembly, Shop inspection, Packing, Forwarding, Transportation, Delivery of SS3 Moduling Tower at SLC site including unloading at storage site as per the enclosed specification.</p>	1.00 Lot		-				
4	<p>STRUCTURAL ITEM :: Loading, transportation from the storage site to the erection site (UAF-II), handling, grouting, erecting, testing, commissioning, performance / acceptance testing of SS3 Moduling Tower as per the enclosed specification.</p>	1.00 Lot		-				

**PROCUREMENT, MANUFACTURE, SUPPLY, ERECTION,**  
**TESTING & COMMISSIONING**  
**OF**  
**SS2 & SS3 MODULING TOWERS FOR UAF BUILDINGS**  
**OF**  
**SLC PROJECT**

**SPECIFICATIONS & PRICE SCHEDULE**

OWNER : INDIAN SPACE RESEARCH ORGANISATION

PROJECT : SSLV LAUNCH COMPLEX (SLC)

LOCATION : **SSLV PROJECT OFFICE**, SURVEY NO. 260-3C,  
MADHAVANKURICHI VILLAGE – 628206, OPP. TO  
**KOODAL NAGAR, THIRUCHENDUR TK., TUTICORIN**  
**DIST., TAMILNADU**



**SSLV LAUNCH COMPLEX (SLC)**  
**SATISH DHAWAN SPACE CENTRE**  
**SRIHARIKOTA -524124**  
**INDIAN SPACE RESEARCH ORGANISATION**

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: TITLE
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET 2 OF 3

**SPECIFICATIONS & ANNEXURES**

SECTION	SPECIFICATION NO	ISSUE NO.	TITLE: SS2 & SS3 MODULING TOWERS SPECIFICATIONS DOCUMENT
<b>SPECIFICATIONS</b>			
A1	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	General Terms and Conditions of the Contract
A2	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	General Specifications & Project information
B	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	Scope of work & Technical Specifications
C	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	Quality Assurance Plane
<b>ANNEXURES</b>			
D1	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	Schedule of prices & general particulars
D2	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	Bid qualification criteria
D3	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	Schedule for general particulars / vendor evaluation format
D4	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	Exceptions and deviations
D5	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	Schedule of bidder's experience
D6	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	Data to be filled along with the bid
D7	SPEC: SLC-SS2 & SS3-MOD-TOWER -01	R0	Check list

<b>ENCLOSURES</b>				
S.NO	DRAWING TITLE	DRAWING NUMBER	VERSION	SHEET
1.	GENERAL ASSEMBLY OF SS2 MODULING TOWER, SLC PROJECT	10-STR-12-5-83/A1	R0	1 of 7
2.	FOLDING PLATFORM WITH SAFETY ROPE DETAILS SS2 MODULING TOWER, SLC PROJECT	10-STR-12-5-83/A1	R0	2 of 7
3.	DETAILS OF WINCH MECHANISM FOR FOLDING PLATFORM, SS2 MODULING TOWER, SLC PROJECT	10-STR-12-5-83/A1	R0	3 of 7
4.	COLUMN LAYOUT SS2 MODULING TOWER, SLC PROJECT	10-STR-12-5-83/A1	R0	4 of 7
5.	FIXED PLATFORM STRUCTURAL DETAILS SS2 MODULING TOWER, SLC PROJECT	10-STR-12-5-83/A1	R0	5 of 7
6.	FOLDING PLATFORM DETAILS SS2 MODULING TOWER, SLC PROJECT	10-STR-12-5-83/A1	R0	6 of 7
7.	STAIR CASE & HANDRAIL DETAILS SS2 MODULING TOWER, SLC PROJECT	10-STR-12-5-83/A1	R0	7 of 7
8.	GENERAL ASSEMBLY OF SS3 MODULING TOWER, SLC PROJECT	10-STR-12-5-84/A1	R0	1 of 7

ISSUE  
R0

SPEC: SLC-SS2 & SS3- MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX (SLC)</b>	SECTION: TITLE
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET 3 OF 3

9.	FOLDING PLATFORM WITH SAFETY ROPE DETAILS SS3 MODULING TOWER, SLC PROJECT	10-STR-12-5-84/A1	R0	2 of 7
10.	DETAILS OF WINCH MECHANISM FOR FOLDING PLATFORM SS3 MODULING TOWER, SLC PROJECT	10-STR-12-5-84/A1	R0	3 of 7
11.	COLUMN LAYOUT SS3 MODULING TOWER, SLC PROJECT	10-STR-12-5-84/A1	R0	4 of 7
12.	FIXED PLATFORM STRUCTURAL DETAILS SS3 MODULING TOWER, SLC PROJECT	10-STR-12-5-84/A1	R0	5 of 7
13.	FOLDING PLATFORM DETAILS SS3 MODULING TOWER, SLC PROJECT	10-STR-12-5-84/A1	R0	6 of 7
14.	STAIR CASE & HANDRAIL DETAILS SS3 MODULING TOWER, SLC PROJECT	10-STR-12-5-84/A1	R0	7 of 7

ISSUE R0
-------------

SPEC: SLC-SS2 &  
SS3-MOD-TOWER -01

**SSLV LAUNCH COMPLEX (SLC)**

SECTION: A1

**SS2 & SS3 MODULING TOWERS**

SHEET : 1 OF 7

# **SECTION -A1**

## **GENERAL TERMS AND CONDITIONS OF THE CONTRACT**

**PROPOSAL DOCUMENT, CLARIFICATION AND ADDENDUM**

Quotations are invited from the interested bidders for the enclosed scope of work in two-part bid.

Part-1: Technical & un-priced part of the work and Part-2: Priced commercial part.

***Only experienced Bidders who are qualifying in bid-qualification criteria given in Section D2 shall quote.***

The RFP document is organized in three sections as follows.

Section –A1 : General Terms and Conditions of the Contract

Section –A2 : General Specifications & Project information

Section –B : Scope of work & Technical Specifications.

Section –C : Quality Assurance Plane

Section- D1 to D7 : Annexures.

**Title of the proposal:**

***“Procurement, Manufacture, Supply, Erection, Testing & Commissioning of SS2 & SS3 Moduling Towers for UAF Buildings of SLC Project”***

***at***

***“SSLV PROJECT OFFICE, SURVEY NO. 260-3C, MADHAVANKURICHI VILLAGE – 628206, OPP. TO KODAL NAGAR, THIRUCHENDUR TK., TUTICORIN DIST., TAMILNADU”***

**Date Public Notification issued by ISRO: [as per the notification](#)**

**Last Date of downloading tender Document by tenderer: [as per the notification](#)**

**Last date of submission of tender documents in online by tenderer: [as per the notification](#)**

**Last date of Bid sealing in online by ISRO: [as per the notification](#)**

**Last date for giving open authorisation in online by tenderer: [as per the notification](#)**

## **1. PROPOSAL DOCUMENT**

- 1.1. Bidder shall sign & stamp each page of this tender document as token of his acceptance and submit the same before order placement.
- 1.2. Proposal documents shall remain the property of SDSC SHAR and shall not be used for any another purpose without the consent of SDSC SHAR.
- 1.3. The proposal shall be completely filled in all respects and shall be tendered together with requisite information & Annexure. Any offer incomplete in any particulars is liable to be rejected.
- 1.4. The Proposal (Unpriced Techno-commercial bid) with a complete set of the required documents shall be submitted in ISRO e-procurement website.
- 1.5. The Proposals shall be submitted on-line before the time limit for bid submission specified in the Letter Inviting Bid.
- 1.6. Supplier shall submit the open authorisation online with in the time limit specified in the Letter Inviting bid.
- 1.7. The Proposal will be opened on the date and on the time specified in the Letter Inviting Bid or as soon thereafter as convenient. Proposal not received in time will not be considered.
- 1.8. Bidders shall set their quotations in firm figures and without variations/additions in the terms of the Proposal documents.
- 1.9. Should there be any ambiguity or doubt as to the meaning of any of the tender clause/condition or if any further information is required, the matter shall be immediately brought to the notice of Head, Purchase & Stores of SDSC SHAR in writing.
- 1.10. Both the Moduling Towers are interdependent for the completion of work. Hence, the overall L1 bidder for the tender shall be considered for evaluation.**

## **2. PREPARATION OF BIDS**

### **2.1 SITE VISIT**

Bidder is advised to visit & examine the site and it's surrounding to familiarize himself of the existing facilities & environment and shall collect all other information which may require for preparing & submitting the Bid and entering into the contract. Claims and objections due to ignorance of existing conditions or inadequacy of information will not be considered after submission of the Bid and during implementation.

### **2.2 VALIDITY OF OFFER**

Bid shall remain valid for acceptance for a minimum period of 4 (four) months from the due date of submission of the Bid. The Bidder shall not be entitled during the said period to revoke or revise his Bid or to vary the Bid except and to the extent required by SDSC SHAR in writing. Bid shall be revalidated for extended period as required by

SDSC SHAR in writing. In such cases, unless otherwise specified, it is understood that validity is sought and provided without varying either the quoted price or any other terms & conditions of Bid finalized till that time.

### **2.3 COST OF BIDDING**

All direct and indirect costs associated with the preparation and submission of bid shall be to Bidder's account and SDSC SHAR will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bid process.

### **2.4 APPLICABLE LANGUAGE/ MEASUREMENTS**

The bid and all correspondence incidentals to and concerning the bid shall be in the English Language. For supporting document and printing literature submitted in any other language, an accurate English Translation shall also be submitted. Responsibility for correctness in translation shall lie with the Bidder.

All the measurements shall be given in metric system.

### **2.5 ARRANGEMENT OF BID**

The Bid shall be neatly presented on white paper with consecutively numbered pages. It should not contain any terms and conditions which are not applicable to the Bid. The Bid and all details submitted by the Bidder shall be signed and stamped on each page as token of acceptance, by a person legally authorised to enter into agreement on behalf of the Bidder. (Corrections / alteration, if any, shall also be signed by the same person).

### **2.6 SCHEDULE OF PRICES**

The schedule of prices shall be read in conjunction with all the sections of proposal document. The price must be filled online in the same format of 'Schedule of Prices' in Section C1. No copy of price bid shall be enclosed along with other document and upload the same anywhere in the e-procurement portal.

### **2.7 DOCUMENTS COMPRISING THE BID**

Bids shall be arranged in the following order.

#### **2.7.1 Part – I : Technical and Unpriced Commercial Part**

Technical and un-priced commercial part shall comprise the attachments, specifying attachment number arranged in the order as follows:

- (a) Submission of bid letter.
- (b) Power of attorney in favour of authorised signatory of the bid / proposal documents.
- (c) All the annexure in Section-D1 to D7 enclosed in proposal duly filled, signed and sealed
- (d) Bid qualification criteria and all supporting documents.
- (e) Write-up on the detailed procedure to be erection at SLC Site of all the items.

- (f) Unpriced copy of schedule of prices with all other commercial terms, taxes, duties, exemption certificates and conditions duly filled (Prices to be kept blank), signed and stamped.
- (g) Audited balance sheet including profit and loss account for last three financial years showing annual turnover.
- (h) Income tax certificate for last three financial years.
- (i) Data sheets for all the equipment & checklists enclosed in proposal duly filled, signed & stamped.
- (j) Technical literature & data sheets of equipment / machinery used by him and any other document as mentioned in the proposal.
- (k) Project execution plan.
- (l) Any other relevant document, bidder desires to submit.

### **2.7.2 Part – II: Priced Commercial Bid**

Priced commercial bid shall be filled online in the price bid format. Schedule of prices (Section D1) also to be filled in the online format and no separate document shall be attached. Deviations in terms and conditions, assumptions, conditions, discounts etc. shall be stipulated in format specified in the portal.

## **3. BID SUBMISSION**

Bids duly filled in by the Bidder should invariably be submitted as stipulated in the Letter inviting bid. Bids shall be submitted in the following manner.

### **3.1 PART – I: UN PRICED TECHNO-COMMERCIAL PART OF THE BID FOR THE WORK**

Complete Techno–commercial part of the bid shall be filled online in the “Vendor Specified Terms’ form of the e-tender. Any documents related, technical literature, guarantee / warrantee certificates and any other relevant documents as per the tender shall be scanned in lower resolution format and uploaded to the e-tender under ‘Documents solicited from Vendor’ form only in ISRO e-procurement portal (<https://eprocure.isro.gov.in>).

The deviation statement and checklist shall be filled online, without which the bid will not be considered.

**Any bids/offers with price/cost details in Techno-Commercial Offer (Part –I) shall be rejected.**

**3.2 PART – II: PRICE PART OF THE BID FOR THE WORK**

Price bid shall be filled in the on-line 'price bid' form of the e-tender only in ISRO e-procurement <https://eprocure.isro.gov.in>. Any other terms and conditions given in this part shall not be considered and if insisted upon by the Bidder, bids are liable for rejection.

- a) SDSC SHAR may open Part – I of the bid on the due date of opening .Price Bids (Part-II) of technically and commercially acceptable offers shall be opened at a later date.
- b) SDSC SHAR reserves the right to reject any or all the Bids without assigning any reasons thereof.

**4. Vendor Evaluation Format**

SDSC SHAR seeks response to the given questionnaire for assimilating data which would be used for evaluating the capability of the supplier for executing the referred work. Hence, the supplier is requested to provide only genuine data and any discrepancy found at a later point of time may result in rejection of the supplier from purchase process. Furnishing of data cannot be construed as automatic qualification for participation in the tender. Questionnaire should be signed by a responsible and authorized person of the Company / Agency.

Schedule of general particulars / vendor evaluation format shall be filled as per Section: D3. Schedule of Bidders experience and details of present works being executed are to be filled as per Section: D5.

Note: In order to consider as valid experience, all the experience has to be supported with the technical details, completion certificate and purchase order.

**If warranted, department/ third party will carry out the inspection of the vendor site / site at which vendor has executed the order for evaluation of the capability and genuineness of the documents.**

**5. DETERMINATION OF RESPONSIVENESS**

SDSC SHAR will scrutinize tenders to determine whether the tender is substantially responsive to the requirements of the tender documents. For the purpose of this clause, a substantially responsive tender is one which inter-alia conforms to all the terms and conditions of the entire Tender document without any deviations and reservations. The decision of SDSC SHAR shall be final in this regard.

**6. BID EVALUATION**

6.1 During evaluation, SDSC SHAR may request Bidder for any clarification on the bid or additional documents.

6.2 Bidder must provide the point-by-point compliance to the technical specifications along with deviations as per "Schedule of deviations" attached in D4. The tender will be rejected, if the deviations are not acceptable to the Department.

6.3 Performance of Bidder on similar nature of works executed/ under execution shall be taken into consideration before selecting the Bidder for opening his price bid.

6.4 The time schedule for completion is given in the Proposal document. Bidder is required to confirm the completion period unconditionally.

6.5 SDSC SHAR reserves the right to accept a bid other than a lowest and to accept or reject any bid in full or part without assigning any reasons. Such decisions by SDSC SHAR shall bear no liability whatsoever consequent upon such decision.

6.6 The Bidder, whose bid is accepted by SDSC SHAR, shall be issued a Purchase Order (PO) to proceed with the work. Bidder shall confirm acceptance by returning a signed copy of the PO.

SPEC: SLC-SS2 & SS3-  
MOD-TOWER -01

**SSLV LAUNCH COMPLEX (SLC)**

SECTION: A2

**SS2 & SS3 MODULING TOWERS**

SHEET : 1 OF 17

# **SECTION –A2**

## **GENERAL SPECIFICATION & PROJECT INFORMATION**

**1. INTRODUCTION**

Specification of “Procurement, Manufacture, Supply, Erection, Testing & Commissioning of SS2 & SS3 Moduling Towers for UAF Buildings of SLC Project”.

**2. SCOPE OF WORK AND TECHNICAL SPECIFICATIONS**

The detailed scope of work and technical specifications are given in Sections B of this document. The general terms and conditions are given below.

**3. SUPPLIER'S OBLIGATIONS & FUNCTIONS****3.1 SPECIFICATIONS AND DRAWINGS**

Supplier shall execute the works in compliance with the provisions of Contract, good engineering practices and codes requirements.

**3.2 SUBMISSION OF TECHNICAL DOCUMENTS**

Supplier shall prepare and submit to SDSC SHAR for approval of following documents and drawings:

- Technical literatures & data sheets of equipment used by him.
- Fabrication shop layout for fabricating platforms, guide columns & support brackets etc.
- Erection sequence schedule along with erection drawings.
- Detailed Quality Assurance Plan.
- No activity shall be executed unless SDSC SHAR's approval is obtained. The above documents shall be submitted in a format approved by SDSC SHAR.

**3.3 DESIGN, FABRICATION & SUPPLY**

Supplier shall carry out detailed engineering, fabrication and supply the assembly towers and access towers in accordance with the scope, technical specifications and terms & conditions of contract.

**3.4 DELIVERY AND STORAGE**

- Dispatch Instructions given in the Contract shall be strictly followed. Failure to comply with the instructions may result in delay in payment apart from imposing any other charges as may be deemed to fit.
- The Supplier shall be responsible for transporting all the equipment to site, unloading and storage.
- No equipment shall be delivered without obtaining dispatch clearance from SDSC SHAR.

- All the equipment shall be properly packed to avoid any damage during transportation / handling / storage.
- The equipment received at site shall be stored at a place assigned for this purpose.
- Supplier shall take proper care while storing the equipment and shall provide watch & ward at his own cost.

#### **4. INSTALLATION**

##### **4.1 GENERAL**

- Supplier's staff shall include adequate number of competent erection engineers with proven experience on similar works to supervise the erection works and sufficient skilled, unskilled and semiskilled labour to ensure completion of work in time.
- Supplier's erection staff shall arrive at site on date agreed by department. Prior to proceeding to work, Supplier shall however, first ensure that required/sufficient part of his supply has arrived at site.
- Erection of equipment may be phased in such a manner so as not to obstruct the work being done by other Suppliers and / or operating staff who may be present at that time.
- During erection, Department's quality team / their engineer will visit site from time to time with or without Supplier's engineer to establish conformity of the work with specification. Any deviations, deficiencies or evidence of unsatisfactory workmanship shall be corrected as instructed by Department.
- Supplier shall carry out work in a true professional manner and strictly Adhere to the approved drawings. Any damage caused by Supplier during erection to new or existing building / environment shall be made good at no extra cost to Department.

##### **4.2 RECORDS**

Supplier shall maintain records pertaining to the quality of erection work in a format approved by Department. Whenever erection work is complete, Supplier shall offer erected equipment for inspection to Department's engineer who along with Supplier's engineer will sign such records on acceptance.

##### **4.3 TOWERS ERECTION**

- Supplier shall carry out the works in accordance with the specific instructions given on the approved drawings, method statements, manufacturer's drawings / documents or as directed by Department.

- Equipment shall be erected in neat manner so that they are level, plumb, and square and properly aligned and oriented.
- Tolerances shall be as established in manufactures drawings or as stipulated by Department.
- No equipment shall be welded or bolted, until its alignment is checked and found acceptable by Department.
- Supplier shall provide all supervision, labour, tools, machines, cranes, equipments, scaffolding, rigging material and incidental material such as bolts, wedges, anchors, etc. required to complete the works.
- Supplier shall also provide at his own cost all such consumables like oxygen - acetylene gas, welding rods, grinding wheels, temporary supports, shims etc. required to complete work.
- Supplier shall take utmost care while handling instruments, delicate equipment, panels etc. and protect all such equipment on erection.

**4.4 SAFETY**

Supplier shall follow the safety regulations / codes and shall take necessary measures at his own cost.

**4.5 ERECTION & CONSTRUCTION POWER**

- As the site is not fully established and no power supply is available at site, Vendor has to arrange required electrical power for completing this order.
- Material handling equipment required for loading or unloading, erection, testing and commissioning at SLC site is in the scope of vendor.
- Arranging the Material handling equipment for loading/ unloading and movement of parts, sub assembly, bought out items or any other required materials etc., stored within 1km from the erection site including manpower is in the scope of vendor.
- Storing of the supplied items before successfully hand over of the moduling towers at SLC site is in the scope of vendor, no separate shelter will be provided for storage.

**4.6 SITE PREPARATION / CLEARANCE**

- No site preparation works are planned by SLC Project for site fabrication works.
- Preparation of required site for any fabrication and approach requirements for handling the systems shall be in scope of Supplier. The site identified in such works shall be within 400 m from the UAF buildings location.
- Upon completion of work, Supplier shall remove all his equipment and material from the site within one month or time mutually agreed.

- Supplier at all times shall keep site in clean condition and remove all unwanted material at regular intervals.
- In case Supplier fails to remove all their equipment and material within the mutually agreed time, it is deemed that department will arrange to remove the same at Supplier's cost.

**4.7 WORK RULES AT SLC Site**

The work shall be carried out at SLC site on working days only or permission to be obtained from the department staff for late hours / holidays.

**4.8 ACCOMMODATION**

- Accommodation will not be provided by department to Contractors.
- Supplier shall make their own arrangement for accommodation, transportation & canteen facility for all his staff, technicians, labour & workers.

**4.9 MEDICAL FACILITIES**

No medical facilities will be provided by department. Supplier shall make their own arrangement at their own expenses for medical facilities for site personnel.

**4.10 WORK PROGRAMME**

Supplier shall prepare a detailed program schedule for review / approval by department. Supplier as per exigencies of work shall revise and update programme periodically.

**4.11 SUB-CONTRACTS**

- No work shall be sub-contracted without prior approval of department.
- Supplier shall be responsible for the proper execution of any sub-contract placed by him in connection with this purchase order.
- Supplier shall furnish to department the copies of all un-priced sub-orders showing promised delivery dates and places.

**4.12 CHANGES AND MODIFICATION TO SPECIFICATIONS, DRAWINGS AND QUALITATIVE / QUANTITATIVE REQUIREMENTS**

- Supplier shall obtain approval from department before initiating the action for procurement of bought out items.
- During the fabrication review, supplier has to carry out the mutually agreed modifications to meet the overall requirement.

**4.13 RECORD OF DRAWINGS AND O&M MANUALS**

- Supplier shall submit 3 hard copies & one soft copy of all the approved drawings incorporating any modification / changes made during the execution of CONTRACT. All these drawings shall be marked as 'As Built'.
- Supplier shall submit 3 hard & one soft copy of O&M manual. These manuals should indicate weekly, monthly and yearly maintenance schedule and other instructions necessary for safe maintenance of equipment.
- Submission of the drawings and manuals shall be a precondition for releasing of any final payment due to Supplier.

**5. TAXES AND DUTIES**

- The tendered items as per the above subjected tender comes under “Scientific and technical instruments, apparatus, equipment, accessories, parts, components, spares, tools, mock ups and modules, raw material and consumables required for launch vehicles and satellites and payloads” having GST @ 5% (As per Dept of Revenue IGST Notification No. 25/2018 Integrated Tax (Rate) Schedule-I; Sl. No.243B dt: 31.12.2018 (Amendment to Notifications No. 7/2018-Integrated Tax (Rate) dt: 25.01.2018. Clause A (ix) about Schedule I 243A))
- Kindly accept to offer the item with 5% GST against End User Certificate from our Competent Authority that the items belong to the above category
- It is the responsibility of the contractor to issue the Tax Invoice strictly as per the format prescribed under the relevant applicable GST law (CGST Act/SGST Act/UTGST Act/IGST Act). Contractor to indicate the proper GSTN Registration/ HSN code in their tax invoices.
- CGST/SGST/UTGST/IGST shall be paid at actual against Tax Invoice but restricted to the amount and percentage in the contract.
- GST details of SDSC SHAR are given below:
  - Designation : Purchase and stores officer VALF
  - Contact no : 08623-226082
  - GSTIN : 37HYDF00385A1DZ

**6. STATUTORY VARIATION**

- Statutory variation for CGST/SGST/UGST/IGST is applicable, provided the actual completion of services does not occur beyond the period stipulated in the order/contract or any extension (without levy of penalty). For variation after the agreed completion periods, the service provider alone shall bear the impact for the upwards revisions.
- For downward revisions, the Department shall be given the benefit of reduction in CGST/SGST/UGST/IGST.

**7. RISK COVERAGE**

- The Supplier shall arrange comprehensive risk coverage for his personnel and equipments at his own cost covering the value of equipment including transportation to the site storage at site till completion of works at site. The period of such coverage shall be up to contractual completion period or any extension granted by Department thereof.
- The purchaser shall not be responsible for any type of risk allowance. This is solemnly lying with service provider.

**8. INCOME TAX**

Income tax at the prevailing rate as applicable from time to time shall be deducted from the Supplier's bills as per Income Tax Act, 1961 and the rules there-under or any re-enactment or modifications thereof and a TDS certificate shall be issued.

**9. BANK GUARANTEE FOR SECURITY DEPOSIT, PERFORMANCE BANK GUARANTEE:****9.1. PERFORMANCE BANK GUARANTEE (PBG):**

Successful vendor has to submit a BG/DD/FDR in lieu of PBG from a Nationalized / Scheduled Bank for 3% of the order value after commissioning and acceptance of Folding Platforms valid till the completion of warranty period plus 60 days towards claim period.

**9.2. SECURITY DEPOSIT (SD)**

3% value of the order shall be deposited with SDSC within 10 days from the date of the Purchase Order towards security deposit in the form of Bank Guarantee (BG)/ FDR/DD towards performance of the Contract valid till completion of the contract period plus sixty days towards claim period. (This will be returned by SDSC immediately on execution of the order satisfactorily as per order terms. If not, the amount will be forfeited).

**9.3. Combined BG for PBG cum SD**

In case, if parties are unable to provide two separate BGs, i.e., one for SD & one for PBG, they can submit a combined BG for SD & PBG for 3% of the Order value valid till the completion of total contractual obligation (i.e., Supply period plus warranty period plus 60 days).

Note: No interest shall be payable on any bank guarantee.

**10. PACKING AND FORWARDING**

- The Supplier shall arrange to have all the material suitably packed as per the standards and as specified in the contract. Unless otherwise provided for in the contract, all containers (including packing cases, boxes, tins, drums, and wrappings) used by the Supplier shall be non-returnable.
- All packing and transport charges, transit handling costs, transit risk coverage and transport fees of agents employed at the place of delivery or elsewhere, shall be deemed included in the price to be paid to the Supplier.

**11. ARBITRATION**

- In the event of any dispute(s) and/or difference(s) arising out of or relating to the interpretation and application of the Work Order, such dispute(s) and/or difference(s) shall be settled amicably by mutual consultations of the good Office of the respective Parties and recognizing their mutual interests attempt to reach a solution satisfactory to both the parties.
- If such a resolution is not possible within 30 days from the date of receipt of written notice of the existence of such dispute(s) and/or difference(s), the unsolved dispute(s) and/or difference(s) shall be referred to the Arbitrators appointed by the Parties by mutual consent in accordance with the rules and procedures of Arbitration and Conciliation Amendment Act, 2015 as amended from time to time.
- The arbitration shall be conducted Satish Dhawan Space Centre SHAR, Sriharikota. The expenses for the Arbitration shall be shared equally or as may be determined by the Arbitrator. The considered and written decision of the Arbitrator shall be final and binding between the Parties.
- The applicable language for Arbitration shall be in "English" only.
- Services under the Work Order shall be continued by Party during the pendency of arbitration proceedings, without prejudice to a final adjustment in accordance with the decision of the Arbitrator unless otherwise directed in writing by the Centre

(SDSC SHAR) or unless the matter is such the Work Order cannot be possible continued until the decision (whether final or interim) of the Arbitrator is obtained.

- In case order is concluded on the Public Sector Undertakings, the following Arbitration Clause will be applicable:

In the event of any dispute(s) or difference(s) relating to the interpretation and application of the provisions of the commercial contracts between ISRO/SDSC SHAR & Central Public Sector Enterprises (CPSEs)/Port Trusts inter se and also between ISRO/SDSC SHAR & CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute(s) or difference(s) shall be taken by either party for resolution through the “Administrative Mechanism for Resolution of CPSEs Disputes (AMRCD)”, as mentioned in the Office Memorandum F No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22nd May, 2018 issued by the Director of the Department of Public Enterprises (DPE) under the Ministry of Heavy Industries and Public Enterprises, Government of India.

## 12. APPLICABLE LAW AND JURISDICTION

The laws of India shall govern this purchase order for the time being in force. The Courts of Andhra Pradesh, India only shall have jurisdiction to be with and decide any legal matters or disputes what so ever arising out of the purchase order.

## 13. FORCE MAJEURE

Should a part or whole work covered under this purchase order be delayed due to reasons of Force Majeure which shall include legal lockouts, strikes, riots, civil commotion, fire accident, quarantines, epidemic, natural calamities and embargoes the completion period for work, equipment referred to in this agreement shall be extended by a period not in excess of the duration of such Force Majeure. The occurrence shall be notified within reasonable time.

## 14. WARRANTY

- The bidder shall provide **12 months** warranty for the entire system for a defect liability, after final official handing over at his cost. During this period, supplier has to provide and adhere to the following:
- He has to attend quarterly based preventive maintenance visits and breakdown maintenance calls. All the defective components have to be replaced or rectified on one-to-one basis.

- Break down maintenance should be responded within 48 Hours' time and shall be completed within 48 Hours after respond.
- Department will not provide any transport/accommodation.
- In case vendor failed to attend and repair the system within 7 days from the date of reporting the problem, Department will reserve right to forfeiting the BG apart from withheld of any payment payable to the vendor.

**15. SCHEDULE OF PRICE**

- CONTRACT price shall include all costs of "Fabrication, Supply, Erection, Testing, Painting and Commissioning of SS2 & SS3 Moduling Towers at SLC site as per this contract, transport to site, unloading, storage, all risk coverage, erection, installation, testing & evaluation and commissioning of equipment including any other cost for proper and complete execution of the CONTRACT.
- CONTRACT prices shall also include all travelling expenses, living expenses, salaries, overtime, benefit and any other compensation for engineers, supervisors, skilled, semiskilled workmen, watch and ward staff, labours and other staff employed by the Supplier, cost of tools and tackles required for erection and other consumable material required, and all taxes, duties, and levies as applicable on the date of submission of bid.
- Supplier shall quote the prices similar to price bid format enclosed as Section – D1 only in online. The rate quoted shall be on FOR SLC site, Tuticorin, Tamil Nadu, basis.

**16. DISCOUNTS**

Tenderer shall not indicate any discount separately and quoted price should be after deducting the discount.

**17. TERMS OF PAYMENTS**

General guideline terms of payments are as indicted below. Any deviation to these payment terms to be brought out.

**A. FOR SUPPLY OF ITEMS INLCUDING BOUGHTOUT ITEMS**

- a. **80%** of supply cost payment against receipt of material at Purchasers / Department site, along with GST.
- b. **20%** of supply cost after successful commissioning & acceptance by Department, equipment and system covered under contract and against submission of Performance bank guarantee.

**B. FOR ERECTION, TESTING AND COMMISSIONING**

- a. **100%** of erection cost after successful erection and commissioning in all respect, conducting functional checks (duly accepted by Department) along with GST at departmental site.

**18. DELIVERY SCHEDULE**

- The realization of fabrication works within the schedule is very essential. Hence, bidders are requested to adhere to the schedules given below.
- Contractor shall follow the following schedule for executing the contract:

S. No	Description of Target	Responsibility	Target Completion Date (in months)
1.	Purchase Order release	Dept.	T0
2.	Procurement, fabrication / machining, control assembly, inspection, transportation, handling and storage at site.	Vendor	T0 + 3 months
3.	Department clearance for erection and commissioning.	Dept.	T1
4.	Erection, Commissioning of the tower.	Vendor	T1 + 1 month from the date of site clearance for erection

**Note: Site clearance for starting erection and commissioning will be given by department via official correspondence. T1 shall be considered as the date mentioned in the correspondence.**

**19. LIQUIDATED DAMAGES**

In the event of the Supplier failing to complete the work within the delivery period specified in the contract agreement or in extension agreed thereto, Department shall reserve the right to recover from the Supplier as liquidated damages, a sum of 0.5 percentage per week or part thereof of the undelivered portion of the total contract price of equipment or work. However, the total liquidated damages shall not exceed 10.0 percentage of the total contract price.

**20. DISCLOSURE AND USE OF INFORMATION**

- If the documents supplied by SDSC SHAR are marked "Strictly Confidential", Supplier shall take all necessary steps to ensure the same.
- Supplier shall guarantee that all information and data received during execution of Purchase Order from SDSC SHAR shall be classified as "confidential" within the meaning of the Official Secrets Act and will not be divulged to any third party

without prior written permission of SDSC SHAR. All drawings & documents shall be returned after execution of work.

- No publicity of any kind whatsoever regarding this work shall be given without prior clearance from SDSC SHAR.

#### **21. ACCEPTANCE AND REJECTION:**

- On completion of the work or part of the work as specified in the contract, the representative of the Department referred to, shall check as soon as possible, but in any event within one month of notification of readiness for acceptance that the work performed complies with the contract requirements as regards quantity and quality.
- In the event of rejection of any of the articles, whereby the Supplier feels himself aggrieved, he may within eight days of the receipt of notification of rejection and before such articles have been removed from the place of inspection, give the Department notice of objection. Such objection shall be considered by a Board of Appeals of the Department. The Department shall, without prejudice to the arbitration clause in the contract, take a decision upon presentation of the Board's findings.
- On completion of tests, the members of the Inspection Organization of the Department or Inspection agency appointed by Department shall prepare a report, which must be countersigned by the Supplier.

#### **22. SUSPENSION**

- Department may notify the Supplier to suspend performance of any or all of his obligations under the Contract. Such notice will specify the reasons for suspension and the effective date of suspension. Supplier there upon shall suspend the performance of such obligations until ordered in writing to resume performance of Contract by Department.
- If Supplier's performance or his obligations remain suspended or the rate of progress is reduced, then, the time of completion will be suitably extended and all costs incurred by Supplier as a result of suspension or reduction in rate of progress will be paid to Supplier provided that the suspension or reduction in the rate of progress is not by reasons of Supplier's default or breach of Contract.

**23. CANCELLATION****23.1 GENERAL RULE**

The Department shall have the right at any time to cancel a contract either wholly or in part by giving written notice by registered mail. From the time of receipt of the written notice, the Supplier shall undertake to observe the instructions of the Department as to the winding up of the contract both on his own part and on the part of his sub-Suppliers.

**23.2 WITHOUT FAULT OF SUPPLIER**

- In the case of cancellation of a contract by the Department without any fault of the Supplier, the Supplier shall on receipt of Department's instructions forthwith take the necessary steps to implement them. The period to be allowed to implement them shall be fixed by the Department after conclusion with the Supplier and, in general, shall not exceed three months.
- Subject to the Supplier confirming, Department shall take over from the Supplier at a fair and reasonable price all finished parts not yet delivered to the Department, all unused and undamaged material, bought-out components and articles in course of manufacture in the possession of the supplier and property obtained by or supplied to the Supplier for the performance of the contract, except such material, bought-out components and articles in course of manufacture as the supplier shall, with the agreement of the Department, elect to retain.

**23.3 WITH FAULT OF SUPPLIER:**

- The Department reserves the right, after full consideration of all relevant circumstances, including the observations of the supplier, to cancel a contract in any of the following circumstances.
- In the event of the Supplier's failure to meet
  - I. The Technical requirements of the Supplier.
  - II. The Progress and/or delivery requirements.
- If the Supplier has not observed the provisions of the contract concerning the disclosure and use of information provided by the Department.
- If the Supplier fails to comply with the provisions of the contract concerning the equipment, supplies and technical documents made available by the Department.
- If the Supplier transfers his contract without the Department's authorization or concludes sub-contracts against the Department's explicit directives.

- In the event that Supplier unjustifiably repudiates the Contract or fails to ship or dispatch all or part of the goods ordered for reasons other than those attributed to the Department's actions or as provided in the Force Majeure clause, the Department may, by giving an appropriate notice in writing to the Supplier, fix a Date of Essence by which the Supplier must complete the dispatch in full. If the Supplier fails to do so, the Department, in addition to his right to recover Liquidated Damages in terms of the Contract, shall also have the right to cancel this Contract and make substitute purchases from other sources. If the goods are in a partial state of fabrication, Department may have the fabrication completed by other means, in which event Supplier shall be liable to Department for the additional expenses incurred thereby, but shall not have any claim on savings, if any, in such cases.
- In the event of such cancellation, the Department shall unless otherwise specified in the contract, only pays.
  - In the case of a fixed-cost contract for the supply of equipment or material. The contractual value of items delivered and accepted under the contract before receipt of notification of cancellation, or to be accepted under the special conditions of cancellation.
  - In the other cases. Fair and reasonable price in respect of such work as has been carried out prior to the receipt by the Supplier of notification of cancellation.

#### **24.FRAUDULENT PRACTICES, BRIBERY AND CORRUPTION OF GOVERNMENT SERVANTS**

The Supplier represents and undertakes that he has not given, offered or promised to give, directly or indirectly any amount, gift, consideration, reward, commission, fees, brokerage or inducement to any person in service of the department or otherwise in procuring the contracts or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of the contract or any other contract with the Government for obtaining a contract or showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the government. Any breach of the aforesaid undertaking by the contract or any one employed by him or acting on his behalf or for his benefit (whether with or without the knowledge of the Supplier) or the commissioning of any offence by Supplier or any one employed by him or acting on his behalf, as defined in chapter IX of the Indian Penal code, 1860 or the prevention of corruption Act.

1947 or any other Act enacted for the prevention of corruption shall, without prejudice to any other legal action, entitle the Department to cancel the contract either wholly or in part, and all or any other contracts with Supplier and recover from the Supplier such amount or the monetary value thereof and the amount of any loss arising from such cancellation without any entitlement or compensation to the Supplier. The Department will also have the right to recover any such amount from any contracts concluded earlier between the Supplier and the Government of India. The Supplier will also be liable to be debarred from entering into any contract with the Government of India for a minimum period of five years. A decision of the Department to the effect that a breach of the undertaking had been committed shall be final and binding on the Supplier.

**25. RISK AND COST PURCHASE:**

Timely delivery of goods/services is of prime importance and where the vendor fails to fulfil their contractual obligations, the Procuring Entity shall be entitled, and it shall be lawful on his part, to procure Stores and/ or services similar to those ordered/cancelled, with such terms and conditions and in such manner as it deems fit at the "Risk and Cost" of the Supplier and the Supplier shall be liable to the Procuring Entity for the extra expenditure, if any, incurred or accrued by the Procuring Entity for arranging such procurement. However, the Supplier shall not be entitled to benefits if any, from such procurement.

**26. LAND BORDER SHARING DECLARATION**

The bidder shall provide compliance to Order No. F.No.7/10/2021 PPD dated 23.02.2023 and amendments thereof by Ministry of Finance, Department of Expenditure, Public Procurement Division regarding restrictions on procurement from a bidder of a country which shares a land border with India and comply to all the provisions of the Order. In this regard, you shall certify that the bidder entity is not from such a country or, is from such a country, has been registered with the Competent Authority.

**27. MAKE-IN-INDIA (MII) CLAUSE:**

- Provisions contained in Public Procurement Policy (Preference to Make in India); Order 2017 issued by DPIIT vide OM No. P-45021/2/2017-PP (BE-II) dated 16.09.2020 & directives related including latest amendments (if any) is applicable for this tender. You are requested to provide Self Declaration Certificate that the offered Item meets Local Content Requirement of Class 1 or Class 2 as per Make in India

(MII) Policy, clearly indicating the Percentage of local content & the details of Location(s) at which value addition is made in the offered product. It may be noted that Local Content shall not include services such as Transportation, Insurance, Installation, Commissioning, Training and after sales service support like AMC/CMC etc. Minimum 50% local content for Class-1 local supplier and minimum 20% local content for class 2 local suppliers.

- Bidders shall submit self-declaration indicating percentage of local content along with location of value addition in INDIA.

**28. PURCHASE PREFERENCE TO MICRO AND SMALL ENTERPRISES (MSES):**

Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the BIDDER MUST BE MANUFACTURER OF THE OFFERED PRODUCT in case of bid for supply of goods. TRADERS ARE EXCLUDED from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence along with UDYAM REGISTRATION in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1 plus 15% (Selected by Buyer) of margin of purchase preference/price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total QUANTITY.

**PROJECT INFORMATION**

- 1.0 Project Title : SSLV LAUNCH COMPLEX (SLC)
- 2.0 Location of Plant : SSLV LAUNCH COMPLEX, SSLV PROJECT OFFICE, SURVEY NO. 260-3C, MADHAVANKURICHI VILLAGE – 628206, OPP. TO KODAL NAGAR, THIRUCHENDUR TK., TUTICORIN DIST., TAMILNADU
- 3.0 Elevation : 22 m
- 4.0 Access to Site : Road about 21km from Thiruchendur and about 46km from Koodankulam approximately.
- 5.0 Terrain : Uneven with level varying significantly.
- 6.0 Climatic Conditions
- a) Temperature
- Mean of daily max : 34 °C
- Mean of daily min. : 28 °C
- Maximum Temperature : 39 °C
- Design ambient temperature for performance guarantee : 45.0 °C
- b) Relative humidity
- i. Range : 58% to 72%
- ii. Design relative humidity for performance guarantee : 80%
- c) Rainfall
- i. Annual average maximum : 1222.7 mm
- 7.0 Wind Load
- Basic wind speed : 7m/s  
(Enhanced by a factor 1.4)
- 8.0 Seismic Data : As per IS : 1893 latest issue
- Zone : Zone II

SPEC: SLC-SS2 &  
SS3-MOD-TOWER -01

**SSLV LAUNCH COMPLEX**

SECTION: B

**SS2 & SS3 MODULING TOWERS**

SHEET : 1 OF 21

**SECTION -B**

**TECHNICAL SPECIFICATION**

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 2 OF 21

**1. SCOPE**

- This specification covers the description of scope of work, functional requirements, technical parameters, general design, materials, construction features, interfaces, list of drawings, and bought out items.
- The scope of the contractor shall include understanding of SS2 & SS3 Moduling Towers for UAF-I & UAF-II buildings of SLC Project and its functional requirement, procurement of raw material, fabrication, machining, assembly of sub-systems along with bought out items, shop inspection, packing , forwarding, transportation, delivery at SLC site, handling at site, erection, testing, commissioning, performance / acceptance testing as per the enclosed specification under the supervision of ISRO and handing over of the tower.

**2. QUANTITY**

The following are the list of items comprising this tender.

S. No	Description	Quantity
1	Procurement, Manufacture, Supply, Erection, Testing & Commissioning of SS2 Moduling Tower for UAF - I Building of SLC Project.	01 set*
2	Procurement, Manufacture, Supply, Erection, Testing & Commissioning of SS3 Moduling Tower for UAF - I Building of SLC Project.	01 set*

\*One set means Fabrication, Supply, Erection, Painting, Testing and commissioning of each Moduling Tower at the respective locations in SLC site.

**3. BACKGROUND INFORMATION / FUNCTIONAL REQUIREMENT**

- UAF-1 & II are RCC buildings where rocket motors are integrated to various sub-assemblies at different approach levels.
- The Moduling towers will be used to integrate SS2 & SS3 motors with their respective inter-stages.
- The platforms available in the tower will enable working personnel to access & carry out the integration activities at various elevation levels.
- Both the Moduling towers will accommodate two sets of folding platforms at two different elevation levels accordingly. The Folding

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 3 OF 21

Platforms will be driven by manually operated winch mechanism for folding operation. The fixed platforms are stationary.

**4. DETAILED SCOPE OF WORK / EQUIPMENT AND SERVICES TO BE PROVIDED BY CONTRACTOR**

For Successful realization of SS2 & SS3 Moduling Towers, the scope of tender shall include but not limited to the following items:

- Complete understanding of functional requirements of the Moduling Towers, interfaces and thereby ensuring satisfactory operation of the system.
- Understanding of supplied drawings and preparation of required part drawings.
- Procurement of raw materials and bought out items with qualification.
- Preparation / Revision of drawings to incorporate changes in Bought out components.
- Carrying out of fabrication and machining as per approved drawings.
- Control Assembly / assembly and testing of sub systems /system such as drive units at shop along with bought out items as per approved manufacturing /fabrication drawing and bills of materials.
- Receipt of manufactured items and related materials at site, unloading, storing the items at specified location at SLC site.
- After departmental clearance, items are to be transported from storage place to erection site and erecting the tower.
- Finalizing the procedure for the erection, testing and the tower to ensure all the functional requirements.
- Carrying out erection, testing and commissioning of subsystems and the tower to ensure all the functional requirements.
- Supply and erection of Foundation bolts for fixing brackets.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 4 OF 21

- Foundation bolts for columns and grouting the columns base plate after alignment with Fosroc make GP2 conbextra cement.
- All tools, tackles, cranes etc for erection.
- Submission of execution plan for all major actives including manufacturing, testing, packaging, delivery to SLC site at Tuticorin, Tamilnadu, erection and commissioning.
- Paint and painting of equipment, structures, supports etc. (Inclusive of Primer Coating).
- Shop inspection (in Vendor's works & at project site) after installation along with all required calibrated measuring instruments.
- First fill of oil, grease, lubricants consumables, etc. as required during start up and commissioning operations.
- Testing, commissioning of complete Moduling Towers and handing over.
- Arrangement for carry out the inspecti on works at various stages as per the approved QAP for manufacturing and testing procedures in the document are only for the general guideline of the tenderer. The tenderer shall furnish these details in their offer as required in the relevant articles of this specification.
- Preparation / Revision of Drawings if any changes made and submission of "As built" drawings.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 5 OF 21

**5. LIST OF DRAWINGS**

The list of drawings mentioned below are tentative general arrangement drawings only and for tendering purpose only. Fabrication drawings will be issued along with the Purchase Order.

S.No	Drawing No.	Description
1	10-STR-12-5-83/A1 SHEET 1 OF 7	GENERAL ASSEMBLY OF SS2 MODULING TOWER, SLC PROJECT
2	10-STR-12-5-83/A1 SHEET 2 OF 7	FOLDING PLATFORM WITH SAFETY ROPE DETAILS SS2 MODULING TOWER, SLC PROJECT
3	10-STR-12-5-83/A1 SHEET 3 OF 7	DETAILS OF WINCH MECHANISM FOR FOLDING PLATFORM, SS2 MODULING TOWER, SLC PROJECT
4	10-STR-12-5-83/A1 SHEET 4 OF 7	COLUMN LAYOUT SS2 MODULING TOWER, SLC PROJECT
5	10-STR-12-5-83/A1 SHEET 5 OF 7	FIXED PLATFORM STRUCTURAL DETAILS SS2 MODULING TOWER, SLC PROJECT
6	10-STR-12-5-83/A1 SHEET 6 OF 7	FOLDING PLATFORM DETAILS SS2 MODULING TOWER, SLC PROJECT
7	10-STR-12-5-83/A1 SHEET 7 OF 7	STAIR CASE & HANDRAIL DETAILS SS2 MODULING TOWER, SLC PROJECT
8	10-STR-12-5-84/A1 SHEET 1 OF 7	GENERAL ASSEMBLY OF SS3 MODULING TOWER, SLC PROJECT
9	10-STR-12-5-84/A1 SHEET 2 OF 7	FOLDING PLATFORM WITH SAFETY ROPE DETAILS SS3 MODULING TOWER, SLC PROJECT
10	10-STR-12-5-84/A1 SHEET 3 OF 7	DETAILS OF WINCH MECHANISM FOR FOLDING PLATFORM SS3 MODULING TOWER, SLC PROJECT
11	10-STR-12-5-84/A1 SHEET 4 OF 7	COLUMN LAYOUT SS3 MODULING TOWER, SLC PROJECT
12	10-STR-12-5-84/A1 SHEET 5 OF 7	FIXED PLATFORM STRUCTURAL DETAILS SS3 MODULING TOWER, SLC PROJECT
13	10-STR-12-5-84/A1 SHEET 6 OF 7	FOLDING PLATFORM DETAILS SS3 MODULING TOWER, SLC PROJECT
14	10-STR-12-5-84/A1 SHEET 7 OF 7	STAIR CASE & HANDRAIL DETAILS SS3 MODULING TOWER, SLC PROJECT

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 6 OF 21

## **6. MANUFACTURING, ASSEMBLY, TESTING AND INSPECTION**

### **6.1 General Instructions for Fabrication and Erection are specified in the subsequent clauses.**

- The fabrication of components shall confirm to provisions of IS : 800 – 2013
- All rolled material before being laid off shall be clean, free from bends, twist etc. and straight within tolerance allowed by IS: 1852 – 1885. If straightening or flattening is necessary, it shall be done by methods that will not injure the material. Long Plates shall be straightened by passing through a mandrel or levelling rolls and structural shapes by the use of mechanical or hydraulic bar section straightening machines.
- For butt-weld joints, edge preparation shall be preferably done by machining and may be done by mechanically controlled gas cutting machine. Sub surfaces shall be ground cleaned and inspected before fitting/ welding.
- Welding shall be performed as per IS: 9595 – 1996.
- All welding shall be carried out by qualified and approved welders shall perform welding in accordance to ASME Sec IX.
- Unless otherwise specified on drawings, tolerances for fabrication shall be as per ISO: 13920.
- Edge preparation shall be carried out for all plates before welding. For butt-weld joints, edge preparation shall be preferably done by machining and may be done by mechanically controlled gas cutting machine. Sub surfaces shall be ground, cleaned and inspected before fitting / welding.
- Unless otherwise specified on drawings, all butt welds shall be full penetration welds.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 7 OF 21

- Unless otherwise specified on drawings, all fillet welds shall be 50% of the minimum plate thickness and shall be on both sides of the plate. Also, the weld shall be continuous.
- Welding sequence shall be such that the distortion and residual stresses are minimised. All welds shall be deposited in proper sequence so as to balance the applied heat as far as possible. (A wandering sequence shall be used whenever necessary).
- The procedure to be followed by CONTRACTOR for all weld repairs shall be subject to approval by the PURCHASER.
- Threaded joints that are to be seal welded shall be thoroughly cleaned before welding.
- All sharp corners of machined/ fabricated items shall be smoothed by de-burring, hand grinding, chipping and filing.
- Fabricator employed at site shall have adequate machining, welding, metrology and portable NDT facilities.
- All fabrication work undertaken in parts shall bear distinct match marking to facilitate further identification and erection.
- During manufacturing, assembly, erection and commissioning bolt tightening shall be carried out using torque wrench/ impact wrench to ensure required tightening/ tension in the bolts.

## **6.2 Fabrication at Manufacturers Work**

The following features shall be inspected at shop assembly:

- Dimensions, various clearances, surface finish etc as specified in drawings.
- Levelling, alignment of all sub systems.
- Free rotational movement of Foldable Platforms about the two hinges.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 8 OF 21

- Free movement of all the Pulleys (this shall also be checked manually during various stages of assembly)
- Folding & unfolding of the Platform and satisfactory working condition of winch mechanisms.

### **6.3 Control Assembly for SS2 & SS3 Moduling Towers**

- Columns of the Moduling towers are to be positioned on the level bed /platform
- Horizontal beams are to be assembled to the columns.
- Suitable match markings are to be done before dismantling.
- Folding platforms shall be assembled and fitted to the Moduling Towers

### **6.4 Inspection at Shop**

- Dimensions, various clearances, surface finish etc as specified in drawings.
- Levelling, alignment of all sub systems.
- Free rotational movement of Foldable Platforms about the Hinges.
- Satisfactory working condition of winch mechanisms and pulleys.

### **6.5 Fabrication at Site**

- Joining of support columns into two or three pieces.
- No major fabrication is to be planned at SLC Site.
- Minor fabrications like fixing of handrails are only to be allowed or any rectifications work with the approval of department.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 9 OF 21

## **6.6 Erection Sequence**

### **6.6.1 Pre-requisite for erection:**

- Civil works of UAF-I & UAF-II buildings shall be complete in all respect and building material including scaffoldings shall be removed and area shall be cleaned.

### **6.6.2 Transportation & temporary placement:**

- After the completion of Inspection & Testing at shop, the equipment shall be dismantled with proper match marking into transportable modules.
- The Platforms, column segments, carriage assembly, hoisting drives etc. shall be loaded on trailers at supplier stores, transported from works to erection site and unloaded at a place designated for the purpose of erection.
- The material shall be loaded on truck/ trailer at Stores/ Fabrication yard using mobile crane transported to actual site and unloaded at site using mobile crane.
- Mobile crane of adequate capacity and boom length shall be used for handling and erecting structural columns, platform structures etc.
- Temporary storage place is approximately 1000 m from UAF-I & UAF-II building; it is open yard without roof, sandy soil with bushes and trees. Hence, clearing of bushes / trees is in the scope of tenderer /supplier only.

### **6.6.3 Erection procedure for towers:**

Typical Erection Sequence shall be as follows:

- All the items stored at the storage yard shall be moved to the erection site using suitable material handling equipment. Material handling equipment, mobile cranes, transportation trailer, manpower etc., for moving the item to erection place (inside UAF-I & UAF-II) is in the scope of Vendor.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 10 OF 21

- The equipment to be delivered at the site as per approved site erection plan.
- The equipments delivered at site shall be inspected and checked as per packing list for totality of requirement.
- The machinery parts shall be cleaned and the corrosion preventing coating shall be removed from surface of the machinery. The parts, which are delivered in dismantled condition, shall be cleaned prior to their assembly.
- The Contractor shall submit documents depicting Fabrication and Erection Procedure at site, Alignment Sequence, Detailed Trial / Test Runs at site based on the guide lines indicated in this document.
- The centerlines & benchmarks shall be checked and established in suitable place for easy reference.
- The items / components / sub-assemblies shall be erected / mounted in the following sequence. However, the sequence may be altered due to site condition and local constraints.
- The structure shall be erected ensuring that there is no mismatch between platforms and support structure. The verticality of support structure columns shall be checked with plumb and also the required distance between support structure columns shall be maintained throughout its height.
- The Platforms shall be assembled on Ground level one at a time and then lifted to the required height using mobile crane or any other suitable arrangement & then locked at required position.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 11 OF 21

**7. ERECTION & COMMISSIONING**

- Inspection and testing during/after erection shall be as per QAP.
- Supplier shall submit detailed erection plan and procedure along with erection loads on building & also on parts being lifted shall be submitted for approval.
- Supplier shall depute adequate qualified personnel i.e., Engineers/supervisor/ foreman, (for mechanical and for electrical), fitters, riggers, and electricians and helpers for carrying out quality erection work at our site within schedule.
- Material (lifting equipment, lifting tackles, etc) required during erection, loading and unloading are in Bidder's scope. All lifting machines / tackles used shall be tested & certified as per standards before their usage for lifting crane.

**8. CODES AND STANDARDS**

- The procurement, manufacture, inspection, testing and performance of the Moduling Towers shall comply with all currently applicable statutes, regulations and safety codes in the locality where the equipment is to be installed. The equipment shall also conform to the latest applicable Indian or equivalent standards. Other international standards are also acceptable, if these are established to be equal or superior to the listed standards. Nothing in this specification shall be construed to relieve the CONTRACTOR of this responsibility.
- The following are some of the codes and standards relevant to this specification.

IS:2062	Hot rolled medium and High tensile Structural Steels
IS:1367 part13	Technical supply conditions for threaded fasteners Hot-dip galvanized coatings ( second revision)
IS:807	Code of Practice for Design, Manufacture, Erection and Testing (Structural Portion) of Cranes and Hoists.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 12 OF 21

IS:3177	Code of Practice for Design of Overhead Traveling Cranes and Gantry Cranes other than Steel Works Cranes.
IS:800	Code of practice for use of structural steel in general building construction.
IS:3681	Gears tooth form and modules.
IS 7403 : 1974	Code of Practice for Selection of Standard Worm and Helical Gear Boxes
IS 4460 : Parts 1 to 3 : 1995	Gears – Spur and Helical Gears – Calculation of Load Capacity
IS:1835	Steel Wires for Ropes
IS:6594	Technical supply conditions for steel wire ropes and strands.
IS:2266	Steel Wire Ropes for General Engineering Purposes.
IS:2363	Glossary of terms relating to wire ropes.
IS:3973	Selection, installation, maintenance and technical supply conditions of wire ropes.
IS: 1364	Hexagonal Head bolts, Screws and nuts of product grades A and B.
IS:816	Code of Practice for Use of Metal Arc Welding for general Construction in Mild Steel.
IS:823	Code of Practice for Use of Metal Arc Welding of Mild Steel.
IS:1181	Qualifying Tests for Metal Arc Welders (Engaged in Welding Structures other than pipes).
IS:1323	Code of Practice for Oxy-Acetylene Welding for Structural Work in Mild steel.
ASTM E94	Standard Guide for Radiographic Examination
ASTM E165	Standard Test Method for Liquid Penetrant Examination
ASTM E709	Standard Guide for Magnetic Particle Examination
ASTM A370	Standard Test Methods and Definitions for Mechanical Testing of Steel Products
ASTM A388	Standard Practice for Ultrasonic Examination of Steel Forgings

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 13 OF 21

ASTM A275	Standard practice for Magnetic Particle Examination of Steel Forgings
-----------	---

**9. SPECIFIC REQUIREMENTS**

- All bought out items supplied shall have capacities not less than those stated in the attached drawings and necessary test certificates shall be furnished in this regard.
- Any items which may not have been specifically mentioned herein but are needed to complete the equipment / system shall also be treated as included and the same shall also be furnished and erected, unless otherwise specifically excluded as indicated.
- All tools and tackles required during various stages of execution of order right from manufacture at shop to the erection and testing at site shall be in the scope of the Contractor.

**10. RELIABILITY AND QUALITY ASSUARANCE PLAN**

The inspection procedures shall be categorized as follows:

- Category A: Stage wise and final inspection including review of documents by Department.
- Category B: Stage wise and final inspection including review of documents by the Contractor. Department shall perform final inspection and review documents.
- Category C: Final inspection and review of documents shall be carried out by the Contractor. Department shall carry out the final review of documents.

The minimum requirements for ensuring quality at various stages are spelt out below. However, the reliability and quality assurance plan shall be prepared by the vendor and will be reviewed and approved by Department.

The following are the basic inspection requirements to be followed upon receipt of raw material:

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 14 OF 21

Review of material test certificates	Category C
UT of plates for thickness greater than 20mm	Category C

The following are the minimum in-process tests that shall be carried out (if applicable):

Welding procedure & welder / welding operator's performance qualification	Category C
100% MT / PT for flame cut edges for plate thickness exceeding 38mm.	Category B
100% PT after back gouging	Category B
100% MT / PT for fillet welds when both plates exceed 25mm thickness.	Category B
100% MT / PT for fillet welds between tension flanges & webs.	Category B
100% RT / UT for butt welds	Category B

Heat treatment shall be carried out on the following (if applicable):

Carbon steel plates where thickness exceeds 20 mm	Category C
All other components as referred to in the drawings	Category C

The following are the final inspection / tests that shall be carried out during various stages of manufacture, as applicable:

Visual and dimensional inspection of components / sub-assemblies	Category A
Blue matching for bolted components	Category A
Complete assembly of tower at VENDOR's shop and testing for performance requirements	Category A
Complete assembly of towers at site and testing for performance requirements.	Category A

The schedule of tests stated above is indicative and not exhaustive in nature. CONTRACTOR shall carry out any other tests at shop / site as per directions of PURCHASER.

#### 11. **TESTING PROCEDURES AND SCOPE OF INSPECTION**

- Raw Material Inspection shall be carried out at the Vendor's works for compliance of the raw materials to the specified standards.
- Bought out components shall be inspected either at Vendor's works or at the Sub-contractor's premises for compliance with the Specifications.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 15 OF 21

- Wire rope shall be tested to two times the SWL of wire rope and the load test certificate shall be provided. Make of the wire rope shall be M/s Usha Martin only.
- Fabricated components shall be inspected at the Vendor's works for compliance with the component drawings. Sub-Assemblies shall be inspected at the Vendor's works for compliance with the Sub-Assembly drawings and for performance requirements.
- Full Assembly of the platforms shall be inspected at Purchaser's premises after site assembly for compliance with the Assembly Drawings and performance requirements.
- After the award of contract, CONTRACTOR shall prepare detailed Quality Assurance Plan (QAP) for inspection & testing of all subassemblies / components of the platforms. The QAP shall be reviewed and approved by the Third Party Inspection Agency and the PURCHASER. Indicative QAP for Moduling Towers is enclosed in Section C of this specification
- The procedure to be followed for testing the accuracy requirements for Platforms shall be as specified by the PURCHASER
- All measuring and testing instruments / equipment required for carrying out all tests at VENDOR's works and at PURCHASER's site shall be provided by the Contractor.
- Platforms mainly comprise of manually operated winch mechanism for foldable platforms and fixed platform from the point of view of testing. In order to realise successful operation of the platform following testing activities shall be performed.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 16 OF 21

**11.1 Testing at Manufacturer's works**

- No load run test shall be carried out for winch mechanism.

**11.2 Testing at Site.**

- Fixed and foldable platforms will be tested with load and deflections will be measured (loads for the test will be provided by the department, however placing of the loads on the platform using suitable material handling equipment is in the scope of vendor).
- Folding and unfolding of platforms for checking noise & jerks and operation of drives will be carried out.

**12. GUARANTEES AND PERFORMANCE REQUIREMENTS**

- The platforms / towers shall perform satisfactorily to meet the guarantee requirements stated in this specification to the entire satisfaction of the PURCHASER

**13. ACCEPTANCE TEST**

- After the entire installation work has been completed, the CONTRACTOR shall make all required adjustments until all guaranteed performance requirements are met. All instruments, services required for the above tests shall be furnished by the CONTRACTOR
- If the stipulated performance requirements are not fulfilled, the CONTRACTOR shall make good the deficiency by providing it in every case, by altering and/ or replacing the parts or the whole equipment / system free of charge to the PURCHASER immediately. All rejected equipment shall be removed from the site at CONTRACTOR's expense

**14. SURFACE PREPARATION AND PAINTING**

- Complete Towers, Platforms & Drive elements shall be painted as per the instructions given below.
- All the shop-fabricated items shall be grit blasted, primer painted.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 17 OF 21

- The site fabrication items also shall be grit-blasted and primer painted before erection.
- After completion of the erection, all the damaged primer painted area shall be rectified.
- After primer painting, All items shall be intermediate painted with inhibitive polyamide epoxy, DFT-100 microns (min).
- The total surface shall be final painted with sufficient number of coats using acrylic aliphatic polyurethane finish paint, having a DFT of 40 microns.
- All box sections, before closing, shall be painted with primer and finish paint inside the Box.

#### **14.1 PREPARATION OF SURFACES**

- All surfaces to be painted shall be clean, dry and free from oil, grease, dirt, dust, corrosion and weld spatters.
- Any other surface contaminant except tightly bonded residues of mill scale rust is permissible to a limit of not more than 5% of whole surface and a maximum of 10% on any particular square inch area.
- Surfaces that may become inaccessible after erection or installation or both, shall be prepared and painted while still accessible as per the same procedure mentioned.

#### **14.2 GRIT BLASTING**

- The entire surface of all the fabricated materials is to be grit blasted as per near white quality of steel structures painting council (SSPC) standard of SA 2.5 of SIS 055900.
- The surface profile after blasting shall be between 37-65 microns and should be of jagged in nature.
- Hand cleaning by chipping and scraping followed by wire brushing / abrasive wheels is allowed for items where surface preparation is

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 18 OF 21

difficult by grit blasting after taking approvals from purchaser / TPIA. All surfaces shall be degreased using a suitable solvent to remove oil & grease and shall be dried off before painting.

### **14.3 PAINTING SCHEME**

- Immediately after grit blasting, one coat of inorganic zinc silicate primer shall be applied to a dry film thickness (DFT) of 65 microns (minimum), intermediate painting with inhibitive polyamide epoxy to a dry film thickness of 100 microns followed by a final coat of 40 microns of acrylic aliphatic polyurethane finish paint. Colour code will be finalized by purchaser after award of contract.
- All paint and primer shall be of standard quality and procured from approved manufacturers. The tenderer shall provide "Elcometer" / Paint thickness measuring gauges free of charge and shall measure the thickness of paint in the presence of the representative of the purchaser at random locations selected by him.
- Machine finished surfaces shall be protected against corrosion by a rust inhibiting coating that can be easily removed prior to erection or which has characteristics that make removal unnecessary prior to erection.
- Field painting shall only be done after the structure is erected, levelled, plumbed, aligned and welded / connected in its final position, tested and commissioned. However, touch-up painting for making good to any damaged shop painting and completing any unfinished portion of the shop coat shall be carried out by the Tenderer at free of cost. The materials and specification for such painting in the field shall be in accordance with the requirements of the specification for shop painting.
- Painting shall not be done in frosty or foggy weather or when humidity is such as to cause condensation on the surfaces to be painted. Before painting of steel, which is delivered unpainted, is commenced,

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 19 OF 21

all surfaces to be painted shall be dried and thoroughly cleaned from all loose scale and rust.

- All field rivets, bolts, welds and abrasions to the shop coat shall be spot painted with the same paint used for the shop coat. Where specified, surfaces which will be in contact after site assembling shall receive a coat of paint (in addition to the shop coat, if any) and shall be brought together while the paint is still wet.
- Bolts and fabricated steel members, which are galvanized or otherwise treated, shall not be painted.
- Paints shall be stored under cover in airtight containers. Paints supplied in sealed containers shall be used as soon as possible once the container is opened.
- While painting the new structures, the already finished floors and structures shall not be spoilt. If there is any spillage of paint on the floors or members on the finished structures, the tenderer has to clear and provide the painting to the spoiled areas.
- Paints shall be checked for shelf life to meet the requirements before application. Proper action shall be taken well in advance prior to actual usage.

#### **14.4 PAINT SPECIFICATIONS**

##### a) Inorganic Zinc Silicate Primer:

- Two part, self cured
- Dry temperature resistance to 400 °C
- Minimum shelf life of 12 months
- Excellent abrasion resistance
- Minimum coverage of 9 sq m./litre at 65 microns (minimum)
- Volume of solids 60% (minimum) by weight and 80% of zinc in dry film by weight
- No mud cracking at an applied thickness of 75 microns.

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 20 OF 21

- Primer shall be applied minimum 65 microns DFT
- (b) All items shall be intermediate painted with inhibitive polyamide epoxy, DFT-100 microns (min).
- (c) Air drying Acrylic Aliphatic polyurethane finish paint having excellent UV resistance.
  - As per approved manufacturer's specifications.
  - Minimum of 40 microns DFT
  - Colour code will be finalised by department after award of contract.

**15. DATA TO BE FURNISHED AFTER AWARD OF CONTRACT**

The contractor shall ensure the following documentation are prepared and submitted to PURCHASER for his review / record

- Schedule of Assembly & Detailed drawings and documents to be submitted for review & approval with submission dates.
- Quality Assurance Plan (QAP).
- Progress reports
- Erection, start-up, operation and maintenance manual complete with lubrication schedule etc.
- As-built drawings
- Quality Assurance documentation compiled for the project.
- The above list of documents is indicative and not exhaustive. The CONTRACTOR shall submit documents as specified in various sections of this specification and also as per the specific instructions of the PURCHASER.

**16. FINAL DOCUMENTS**

- CONTRACTOR shall submit the copies of operation and maintenance manuals well before the despatch of the equipment. The manual shall be in sufficient detail with step by step instructions to enable others to inspect erect, commission, maintain, dismantle, repair, reassemble and adjust all parts of the equipment. Each manual shall also include a

SPEC: SLC-SS2 & SS3-MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: B
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET : 21 OF 21

complete set of approved as built drawings together with performance / rating curves / charts of the equipment, maintenance schedule and test certificates wherever applicable.

- CONTRACTOR shall submit all the raw material test certificates, Ultrasonic testing of the raw material, DP test certificates of all necessary welds. Dimensional inspection reports of individual components.
- Quality assurance documentation compiled for the project.

QUALITY ASSURANCE PLAN FOR SS2 & SS3 MODULING TOWERS

SL. NO.	COMPONENT/ OPERATION	CHARACTERISTICS TO BE CHECKED	METHOD OF CHECKING	CATEGORY	EXTENT OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORDS	INSPECTION AGENCY		REMARKS
									VR	IS	
A. MATERIAL (RAW MATERIALS & BOUGHTOUTS)											
1	Rolled plates & sections, Forgings & Castings	a. Appearance	Visual	Major	100%	IS:2062	Freedom from defects like pitting, cracks, etc.	--	H	R	
		b. Properties	Chemical analysis & physical test	Major	100%	IS:2062	Drawing, specification	Mill test certificates/ Lab reports	H	R	
		c. Internal flaws	UT	Critical	100% for plates ≥20mm thick, 100% for Castings & Forgings	ASTM A435	Specification	NDT reports	H	R	
2	Fasteners (high tensile bolts & nuts etc.)	a. Quality	Visual	Major	Sample check as per relevant specification	IS:1367	a. No cracks b. Proper matching with nuts	IR	H	R	
		b. Chemical composition & physical properties	Chemical analysis, mechanical test	Major	Sample check as per relevant specification	IS:1367	IS:1367 Part III	Manufacturer's test certificates	H	R	
		c. Dimensional	Measurements	Major	Sample check as per relevant specification	IS:1367	IS:1367 Part III & XIII		H	R	
3	Winch Mechanisms	Dimensional conformance	Measurements	Major	100%	As per Manufacturer's Specification	As per Manufacturer's Specification	IR	H	R	
		Performance Tests	Verification	Major	100%	As per Manufacturer's Specification	As per Manufacturer's Specification	IR	H	R	

Legend :

VR – Vendor

IS – ISRO

H – Carrying out responsibility

R – Review of records & results

W – Test/inspection to be witnessed

Signature

Signature

Date :

For VENDOR

For ISRO

Place :

QUALITY ASSURANCE PLAN FOR SS2 & SS3 MODULING TOWERS

SL. NO.	COMPONENT/ OPERATION	CHARACTERISTICS TO BE CHECKED	METHOD OF CHECKING	CATEGORY	EXTENT OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORDS	INSPECTION AGENCY		REMARKS
									VR	IS	
B. WELDING PROCEDURE, WELDER'S QUALIFICATION, ETC.											
1	Welding	WPS, Welder's & Welding operator's qualification	Test piece, Visual, Physical & NDT (RT)	Critical	100%	ASME Sec IX	ASME Sec IX	WPS, PQR & WPQ	H	R	
C. FABRICATION (Platform, folding Platform, Column, Drive Base Frame, Pulley Brackets, Hinge Bracket, Connecting Beam, Bracket, etc. )											
1	Setting out / Layout / Marking	Layout	Measurement	Major	100%	Relevant drawings	Full scale layout to be checked before cutting	Shop register	H	R	
2	Fitup before welding.	Quality	Visual alignment & check of major dimensions	Major	100%	Drawings	a. proper edge preparation b. proper tack welds c. minimum gap for butt joints as per WPS d. DIN-8570	IR	H	R	Members requiring site welding shall be match marked at joining ends for site erection
3	Welding (fillet joints)	Profile, fillet size, overall physical appearance	Visual/ gauge, DP/ MPT after final welding	Major	100%	ASME SecVIII, Vol-1	Drawings	IR	H	R	10% DP test at random shall be done
4	Full penetration welding	a. Root inspection after back gouging	Visual & LPI	Major	100%	IS:3658	No cracks allowed	IR	H	R	
		b. Internal defects	UT / RT	Critical	Wherever asked in the drawing	ASME Sec-VIII, Vol-1	ASME Sec-VIII, Vol-1	Test report	H	R	

Legend :

VR – Vendor

IS – ISRO

H – Carrying out responsibility

R – Review of records & results

W – Test/inspection to be witnessed

Signature

Signature

Date :

For VENDOR

For ISRO

Place :

SL. NO.	COMPONENT/ OPERATION	CHARACTERISTICS TO BE CHECKED	METHOD OF CHECKING	CATEGORY	EXTENT OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORDS	INSPECTION AGENCY		REMARKS
									VR	IS	
		c. Welding quality, surface defects	LPI / MPI	Critical	Wherever asked in the drawing	ASME Sec-VIII, Vol-1	ASME Sec-VIII, Vol-1	Test report	H	R	
6	Dimensional inspection after welding & stress relieving	Dimensional	Measurement of major dimensions & full size shop layout checking	Major	100%	Drawing / DIN 8570	Drawings	IR	H	W	
D. GRIT BLASTING & PAINTING											
1	Grit blasting & painting	Paint thickness	Visual & measurement by paint thickness gauge	Major	At random for paint thickness	Drawing & specification	Drawings & specification	IR	H	R	
E. MACHINING (Pulleys, Hinge Pin, Locking Pin, Brackets etc.)											
1	Machining	Overall dimensions	Measurement & visual	Major	100%	Drawing	Drawing	IR	H	R	

Legend :

VR – Vendor

IS – ISRO

H – Carrying out responsibility

R – Review of records & results

W – Test/inspection to be witnessed

Signature

For VENDOR

Signature

For ISRO

Date :

Place :

SPEC: SLC-SS2 & SS3-MOD-TOWER - 01	<b>SSLV LAUNCH COMPLEX</b>									SECTION: C
	<b>QUALITY ASSURANCE PLAN FOR SS2 &amp; SS3 MODULING TOWERS</b>									SHEET: 4 of 5

SL. NO.	COMPONENT/ OPERATION	CHARACTERISTICS TO BE CHECKED	METHOD OF CHECKING	CATEGORY	EXTENT OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORDS	INSPECTION AGENCY		REMARKS
									VR	IS	
F. CONTROL ASSEMBLY of Fixed Platform, Foldable Platform, and Base Frame fitted with Drive elements and all Pulleys, etc. AT SHOP											
1	Control assembly at works	Dimensions, Leveling, Alignment of SS2 & SS3 Moduling Towers and all sub systems etc., Various clearances, surface finish etc as specified in drawings.	Visual & measurement	Critical	100%	Drawing	Drawings	IR	H	H	Before dismantling, reference line and match marking to be punched.
		Free rotational movement of folding about the Hinges, pulleys, Free movement of Rope and all Pulleys,	Visual & measurement	Critical	100%	Drawing	Drawings	IR	H	H	Before dismantling, reference line and match marking to be punched

Legend :

VR – Vendor

IS – ISRO

H – Carrying out responsibility

R – Review of records & results

W – Test/inspection to be witnessed

Signature

For VENDOR

Signature

For ISRO

Date :

Place :

QUALITY ASSURANCE PLAN FOR SS2 & SS3 MODULING TOWERS

SL. NO.	COMPONENT/ OPERATION	CHARACTERISTICS TO BE CHECKED	METHOD OF CHECKING	CATEGORY	EXTENT OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORDS	INSPECTION AGENCY		REMARKS
									VR	IS	
G. ERECTION AT SITE											
1	Fabricated material inspection	Visual, dimensional, review of TC & IR	Visual & measurement	Major	100%	TS & approved drawings	TS & approved drawings	IR	H	R	
2	Welding & welder qualification	WPS, Welder's & Welding operator's qualification	Test piece, Visual, Physical & NDT (RT)	Critical	100%	ASME Sec IX	ASME Sec IX	WPS, PQR & WPQ	H	R	
3	Positioning & alignment of Columns, Platforms, etc.	Position, level, alignment and other dimensions.	Measurement & visual	Major	100%	Drawing	Drawing	IR	H	H	
4	Welding	Preheat / inter-pass / sequence of welding	Visual	Major	100%	Drawing & TS	Drawing & TS	IR	H	H	
5	Complete welding	Visual, DPT, UT	Visual & UT	Major	100%	TS & drawings	TS & drawings	IR	H	H	
6	Dimensional check of whole assembly	Position, level, alignment and other dimensions, clearances	Measurement & Visual	Major	100%	Drawings	Drawings	IR	H	H	
7	Folding movement of all Platforms,	Clearances	Visual & measurement, smooth movement without jerks throughout the range of travel.	Major	100%	TS & drawings	TS & drawings	IR	H	H	

Legend :

VR – Vendor

IS – ISRO

H – Carrying out responsibility

R – Review of records & results

W – Test/inspection to be witnessed

Signature

For VENDOR

Signature

For ISRO

Date :

Place :

**SCHEDULE OF PRICES (UN-PRICED COPY) & GENERAL PARTICULARS**

1. Bidders shall not alter the contents of this schedule of prices. If the bidder wants any additions / alterations, these shall be brought out separately in the format as given in this schedule of prices.
2. Equipment and material to be supplied and erected shall be in accordance with section A, B & C of this specification.
3. The quoted price shall be price in Indian Rupees for Supply of material, manufacture, inspection and testing at manufacturer's works, packing, forwarding, transportation from place of manufacture to site, transit insurance, unloading / receipt at site, storage / handling and erection at site inclusive of all taxes and duties as applicable except sales tax on finished products, and service tax which shall be separately indicated in the price bid.
4. Both the towers shall be supplied with required quantity of non shrinkable M65 grade cementations grout (Compressive strength: 65N/mm<sup>2</sup> (min)) along with curing agent etc., of make: FOSROC chemical Ltd.

S.No	Item	Qty.	Cost in Rs.
1.	Fabrication, Machining, Assembly, Shop inspection, Packing, Forwarding, Transportation, Delivery of SS2 Moduling Tower at SLC site including unloading at storage site as per the enclosed specification.	01 lot	
2.	Loading, transportation from the storage site to the erection site (UAF-I), handling, grouting, erecting, testing, commissioning, performance / acceptance testing of SS2 Moduling Tower as per the enclosed specification.	01 lot	
3.	Fabrication, Machining, Assembly, Shop inspection, Packing, Forwarding, Transportation, Delivery of SS3 Moduling Tower at SLC site including unloading at storage site as per the enclosed specification.	01 lot	
4.	Loading, transportation from the storage site to the erection site (UAF-II), handling, grouting, erecting, testing, commissioning, performance / acceptance testing of SS3 Moduling Tower as per the enclosed specification.	01 lot	
5.	GST @ 5% for items 1 to 4		
	Total cost		

**\* Both the Moduling Towers are interdependent for the completion of work. Hence, the overall L1 bidder for the tender shall be considered for evaluation.**

**Note:**

1. Cost off packing, forwarding and transportation shall be loaded to the unit rate, not to be quoted extra.
2. **Any bids/offers with price details in Techno-Commercial Offer (Part -I) shall be rejected.**

SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

DESIGNATION: \_\_\_\_\_

DATE: \_\_\_\_\_

SEAL OF THE COMPANY

**BID QUALIFICATION CRITERIA FOR FABRICATION, PAINTING, SUPPLY,  
ERECTION AND COMMISSIONING OF SS2 & SS3 MODULING TOWERS FOR SLC**

Bidders who are qualifying / meeting following Technical and financial criteria are eligible to participate in the bid for supply of SS2 & SS3 Moduling Towers. Bidder shall furnish all the information mentioned in the criteria with documentary proof and submit along with quotation. Bids of the parties which are not meeting the following criteria will not be considered for evaluation and will be rejected without seeking any further clarifications.

**A. TECHNICAL QUALIFICATION REQUIREMENTS**

The bidder shall meet the following technical qualifying requirements and shall submit relevant certificates to establish his credentials.

1. The Bidder shall be an organization with minimum 5 years of experience ending by 31.12.2025 having executed contracts for fabrication and erection of structural items.
2. The firm shall have successfully completed Fabrication, Installation, Testing and Commissioning of at least 1 no heavy structural work of total 10t in single work order or at least 2 nos. heavy structural work of each 7t , during last 10 (ten) years ending with 31.03.2026. Bidders have to provide relevant certificates, PO copy, Completion certificates along with the submission of bid for consideration of bid document.

Bidders have to provide relevant documentary proof for the above experience, along with the submission of bid for consideration of bid document.

**B. FINANCIAL QUALIFICATION REQUIREMENTS**

1. Firm should have successfully completed fabrication and erection of structural items for the given value of works in last 10 (ten) years
  - not less than Rs.30 lakh in a single order
  - OR
  - not less than Rs.20 lakh in two separate orders (each)

Documentary proofs like LOI/PO are to be submitted

2. Bidder shall submit audited profit/loss & balance statement of financial status for last three years.
3. Bidder shall submit ITR documents for the last three financial years.

**C. THE FOLLOWING DOCUMENTS SHALL BE SUBMITTED ALONG WITH THE TECHNO COMMERCIAL BID**

1. Firm establishment certificate and nature of work.
2. Details of work of similar type completed during the last ten years ending with 31.03.2026.
3. Satisfactory work Completion certificates from the clients, with the work order copies.
4. Structure and Organization chart.
5. List of personnel with qualification & experience in the firm in the areas of design, production, quality, safety, administration etc.,
6. List of Machinery & Equipment to be used for the work.

**D. BID SELECTION PROCEDURE AND PROCESS OF PRE-QUALIFICATION**

1. Short listing based on documents submitted, satisfying the all-eligibility criteria given above by the firm or individual along with their Bid / application. (No submission of any document as given in above list within stipulated time leads to rejection of Bid).
2. Subsequently Bidder's competency, their technical achievements and financial status will be evaluated suitable for this project. Feedbacks from Bidder's clients will be verified.
3. Visit to sites by technical team (ISRO or Third party) where Bidder has established above mentioned works.
4. If required, visit will be made to their factory/ firm by technical team (ISRO or third party) for accessing the capability of manufacturer.
5. Scrutiny of all technical specification and supply conditions mentioned in techno commercial bid.

**SCHEDULE OF GENERAL PARTICULARS / VENDOR EVALUATION FORMAT**

<b>S. NO.</b>	<b>DESCRIPTION</b>	<b>RESPONSE</b>
1.	Name of Company	
2.	Address of Company	
3.	Type of Company (Proprietary/Pvt.Ltd/Public Ltd/Joint Venure/Consortium)	
4.	Registration number	
5.	Year of inception of the company	
6.	Registered address	
7.	Name & address of the office of the Chief Executive of the company	
8.	Name & Designation of the officer of the Bidder to whom all correspondence shall be made for expeditious technical/ commercial co-ordination.  Telephone number Fax number E-mail address	
9.	Locations of the Branches of Company (if any)	
10.	Annual turn-over of the company for the last three years	
11.	Major customers (Enclose copies of the Purchase Orders)	
12.	Any customers feedback on the services which is in writing (Pl. enclose copies)	
13.	Quality certification of the company	
14.	Orders executed during last three years, (Separate sheet can be attached).	
15.	Shop floor area covered	
16.	No. of employees	
17.	Handling facility available:	
18.	Welding professionals:	
19.	Details of inspection facilities / Instruments available ( Brief description & specifications shall be provided)	
20.	Bid validity period (Min. 4 months from date of bid opening)	

SIGNATURE :

NAME :

SEAL OF THE COMPANY DESIGNATION :

COMPANY :

DATE :

**EXCEPTIONS AND DEVIATIONS**

In line with Proposal Document, Bidder may stipulate Exceptions and deviations to the proposed conditions if considered unavoidable.

S.No	Reference in Specification		Dept. Specification	Offered Specification	Deviation
	Page no	Clause no			

**NOTE:**

Only deviations are to be written in the above form.

Any deviations taken by the Bidder to the stipulations of the Proposal document shall be brought out strictly as per this format and enclosed along with the bid.

Any deviations not brought out in this Proforma and written elsewhere in the Proposal document shall not be recognized and the same is treated as null and void.

Any wilful attempt by the Bidders to camouflage the deviations by giving them in the covering letter or in any other documents that are enclosed may render the Bid itself non-responsive.

SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

DESIGNATION: \_\_\_\_\_

DATE \_\_\_\_\_

SEAL OF THE COMPANY

SPEC: SLC-SS2 & SS3- MOD-TOWER -01	<b>SSLV LAUNCH COMPLEX</b>	SECTION: D5
	<b>SS2 &amp; SS3 MODULING TOWERS</b>	SHEET: 1 of 1

**SCHEDULE OF BIDDERS EXPERIENCE**

The bidder shall furnish here under a list of works executed by him to whom a reference may be made by the PURCHASER in case the PURCHASER considers such a reference necessary.

S. NO.	Name & address of Client / Name & address of project or plant (incl. Tel.no., fax no., e-mail and name & Designation of person who can be contacted.	Purchase Order / Contact no. and Date.	Brief details of equipment / system covered	Scope of services	Contract price (Rs)	Scheduled date of completion	Actual date of completion	Reasons for delay in completion, if applicable.	REMARKS

SIGNATURE :  
NAME :  
DESIGNATION :  
COMPANY SEAL:

**DATA TO BE FILLED ALONG WITH THE BID FOR SUPPLY & COMMISSIONING OF  
SS2 & SS3 MODULING TOWER**

SR. NO.	DESCRIPTION	TENDERS OFFER
1.0	Confirm that the system shall be realised as per technical specification, approved manufacturing drawings, bill of material to meet the functional requirement.	Yes / No
2.0	Confirm that all the bought-out items are to be procured as per the specification from the approved parties	Yes / No
3.0	Confirm that fabrication of all items shall be done as per IS: 800 & tolerance in fabrication shall be maintained as specified in relevant drawings.	Yes / No
4.0	Confirm that all sub-assemblies (foldable platforms) shall be tested for proper functioning, free running, bearing noise etc. & shall be brought to site in grease packed condition.	Yes / No
5.0	Confirm that all the drive winch mechanism shall be assembled in machined base frame & no-load test of drive mechanism shall be carried out at shop	Yes / No
6.0	Confirm that all the items shall be painted as per painting scheme.	Yes / No
7.0	Erection sequence shall be submitted along with offer.	Yes / No
8.0	Manufacturing schedule & Erection schedule shall be submitted along with offer.	Yes / No
9.0	Confirm that survey of all civil inserts will be carried out with own equipment's & man power and based on survey reports, columns of the tower shall be erected & aligned. Also confirm that supply of necessary spacer plates and minor modification of the base plate of the structural columns according to the civil insert plates shall be carried out by the vendor.	Yes / No
10.0	Supply of required Grouting material for erection of the Inspection tower	Yes / No
11.0	Confirm that testing and commissioning of the total system shall be carried out as per specification.	Yes / No
12.0	Confirm that QAP for fabricated items machined items, Subassemblies and for total platform in assembled condition shall be submitted for approval.	Yes / No

SIGNATURE: \_\_\_\_\_

NAME: \_\_\_\_\_

DESIGNATION: \_\_\_\_\_

DATE \_\_\_\_\_

SEAL OF THE COMPANY

**CHECK LIST**

S.No	Description	Response by supplier
1	All documents related to Prequalification criteria mention in <b>Section D2</b> have been met and all related documents are enclosed in technical Bid	Yes / No
2	Are all the technical particulars as called for in the data sheets section A, B, C, & Annexure D1 to D7 and commercial details as called for in schedule of prices are filled up.	Yes / No
3	The detailed scope of work and technical specifications are understood and price was quoted accordingly.	Yes / No
4	Confirmation that the quoted prices are firm and fixed till the completion of scope of work.	Yes / No
5	Validity of Offer is 4 months (minimum).	Yes / No
6	Vendor Evaluation Format is attached	Yes / No
8	Delivery Schedule with milestones	Yes / No
9	Acceptance of departmental payment terms & conditions as per para no.17 of Section A2	Yes / No
10	Are General terms and Conditions of Contract for Supply & Erection included in proposal acceptable?	Yes / No
11	If not acceptable, are the deviations brought out in the "Schedule of Deviations"	Yes / No
12	Are there any deviations from enquiry technical specifications?	Yes / No
13	If there are technical deviations, are these filled in "Schedule of Deviations from Tech. Specifications"?	Yes / No
14	Warranty for the fully commissioned and accepted system is 12 months	Yes / No
15	PBG of 3% as per clause 9.1 of Section-A2	Yes / No
16	SD of 3% as per clause 9.2 of Section-A2	Yes / No
17	Combined BG for SD & PBG for 3% as per clause 9.3 of Section-A2	Yes / No
18	Liquidated Damages as specified in the specification document are acceptable	Yes / No
19	Last three years audited financial results are enclosed	Yes / No
20	Registration certificate of the company is enclosed	Yes / No
21	All the forms in Section D1 to D7 are filled	Yes / No
23	Un priced copy enclosed along with technical-unpriced bid.	Yes / No
24	Section Priced Bid Format (D1) filled in E-procurement portal Price Bid form only.	Yes / No
25	Signed copy of the complete RFP document is submitted.	Yes / No

SIGNATURE: \_\_\_\_\_

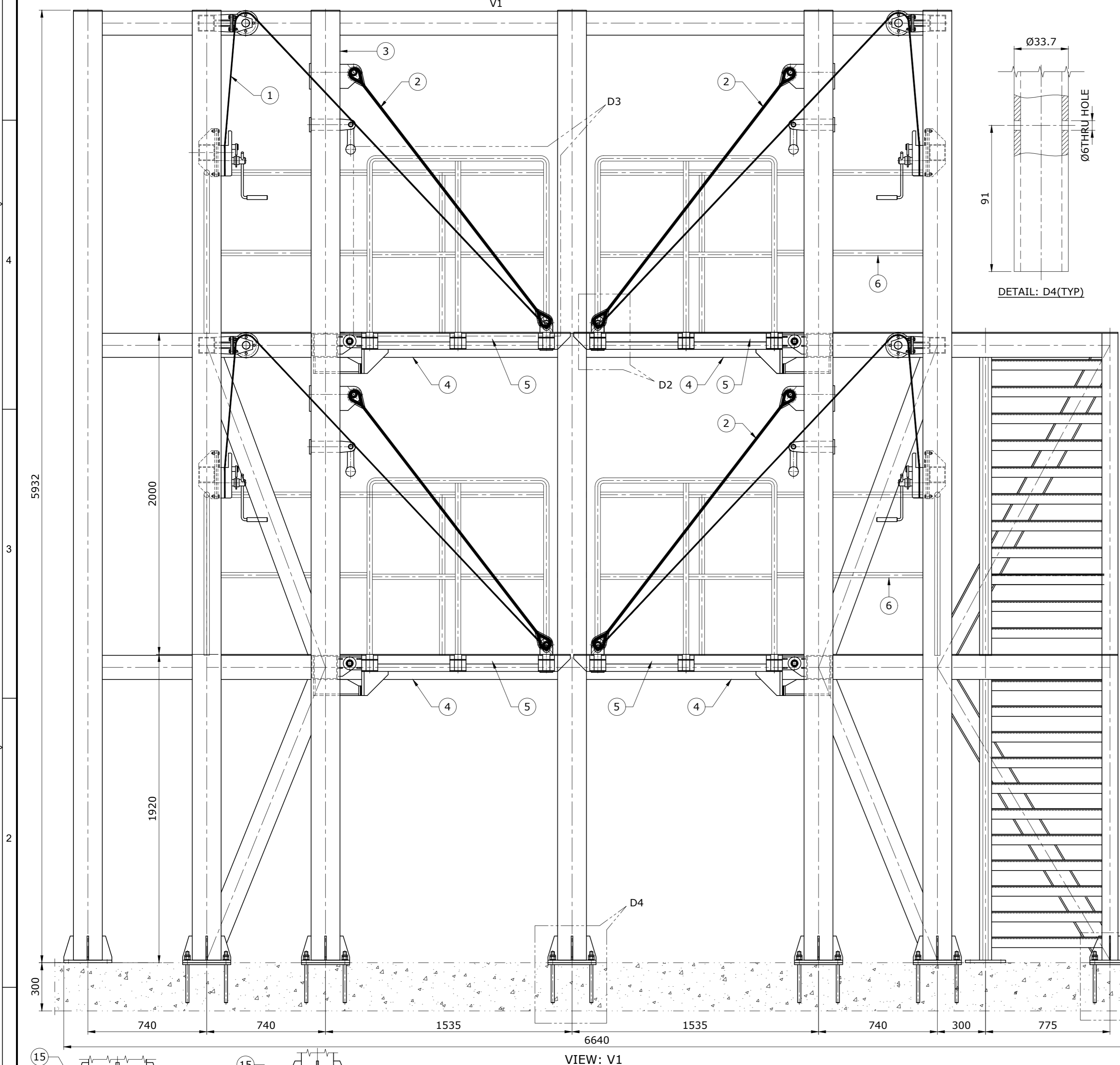
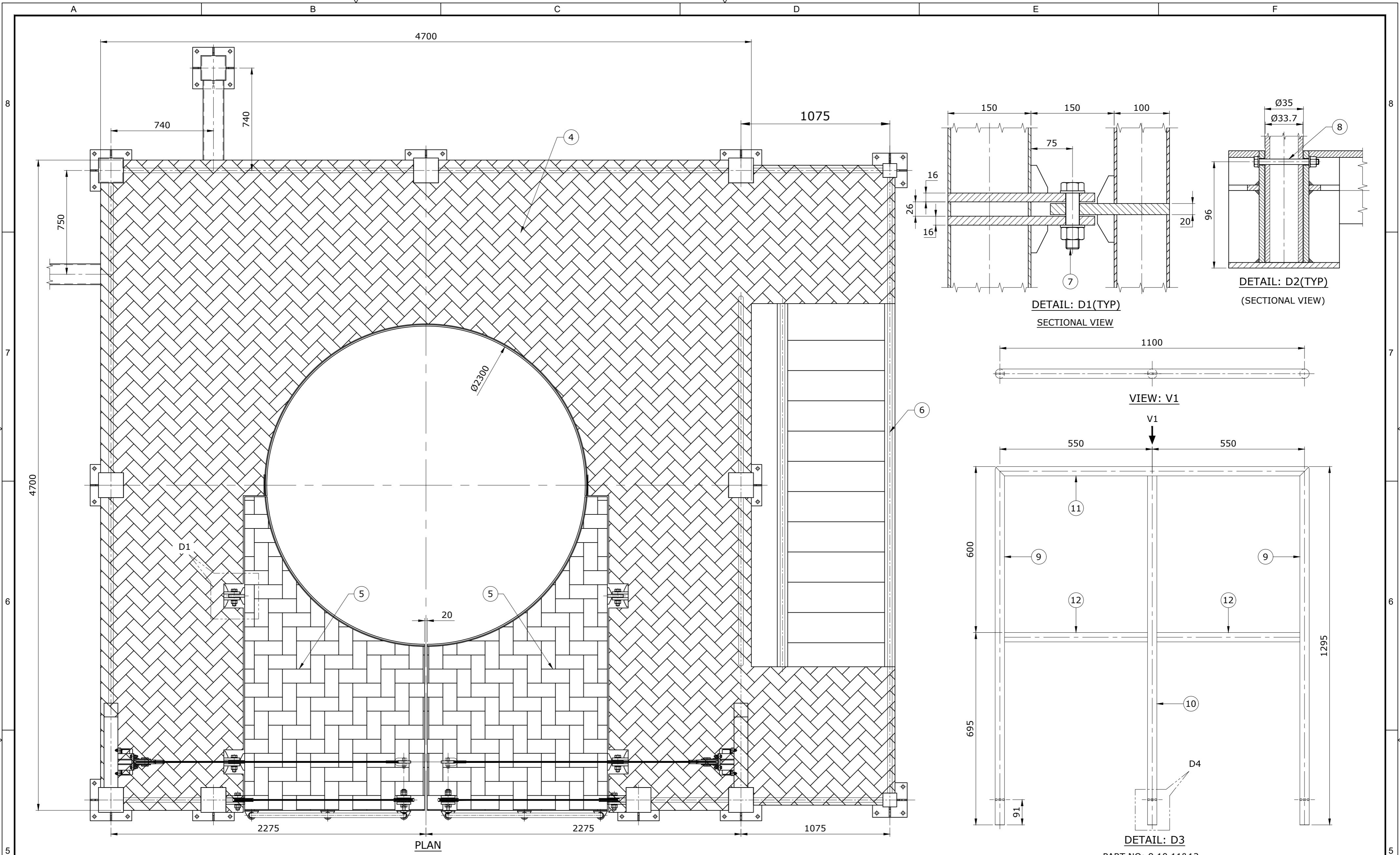
NAME: \_\_\_\_\_

DESIGNATION: \_\_\_\_\_

DATE \_\_\_\_\_

SEAL OF THE COMPANY

ISSUE  
R0



- NOTES:**
- ALL DIMENSIONS AND ELEVATIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH SHEETS 2 TO 7.
  - DESIGN, FABRICATION AND ERECTION, IN GENERAL, SHALL CONFORM TO IS :800 AND ALSO AS PER TECHNICAL SPECIFICATIONS.
  - WELDING IN GENERAL SHALL CONFORM TO IS : 816, IS:9595 AND ALSO AS PER TECHNICAL SPECIFICATIONS.
  - FABRICATION TOLERANCES SHALL BE AS IS:7215 AND AS PER TECHNICAL SPECIFICATIONS.
  - ALL WELDS SHALL BE FREE FROM DEFECTS LIKE BLOW HOLES, LACK OF PENETRATION, UNDER CUTTING, CRACKS ETC. ALL WELDS SHALL BE CLEANED OF SLAG OR FLUX AND SHOE SECTIONS, SMOOTHNESS OF WELD METAL, FEATHER EDGES WITHOUT OVERLAP AND FREEDOM FROM POROSITY.
  - ALL BUT WELDS SHALL BE COMPLETE PENETRATION BUTT WELDS.
  - INTERMITTENT WELD SHALL NOT BE PERMITTED UNLESS SPECIFIED IN THE DRAWING.
  - INSPECTION OF WELD SHALL BE AS PER TECHNICAL SPECIFICATIONS.
  - ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  - THE THICKNESS OF GUSSET PLATE SHALL NOT BE SMALLER THAN 8mm NOR SMALLER THAN THE THICKNESS OF MEMBERS CONNECTED UNLESS OTHERWISE SPECIFIED OF THE DRAWING.
  - PAINTING AS PER TECHNICAL SPECIFICATION/PURCHASE ORDER.
  - ANCHOR BOLTS SHOWN ARE INDICATIVE, USER HAS TO CONFIRM TYPE OF ANCHOR BOLT BASED ON THE AVAILABLE FLOOR THICKNESS.
  - LENGTH OF BRACING MEMBERS AND SIZE OF GUSSET PLATES SHALL BE CHECKED AND VERIFIED BY SHOP LAYOUT PRIOR TO FABRICATION.
  - CONTRACTOR SHALL TAKE EXTRA CARE TO CHECK THE STRAIGHTNESS OF ALL MEMBERS AND GET THEM INSPECTED/APPROVED BY ENGINEER BEFORE ERECTION.
  - PROPER PROVISION SHALL MADE BY CONTRACTOR WHILE ERECTING THE MEMBERS IN POSITION USING TEMPORARY BRACING/TIES/STIFFENER TO WITH STAND ALL THE STRESSES DEVELOPED DURING THE ERECTION.
  - CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION/MACHINING.

SWL: 200kg/m<sup>2</sup> TOTAL WEIGHT 10057 Kg(Approx).

S.NO	DESCRIPTION	MATERIAL	QTY	MASS	REMARKS
*15	M20 ANCHORING BOLT WITH NUT, LOCK NUT & WASHER-320Lg	IS:1367	44 sets	-	PROPERTY CLASS: 8.8
14	EMBEDMENT PLATE- 2 250 x 250 x 12Thk	IS:2062 E250 Gr:B	2	12	
13	EMBEDMENT PLATE- 1 300 x 300 x 12Thk	IS:2062 E250 Gr:B	9	76	
12	25NB PIPE OD33.7xWALL Thk4mm- 520Lg	IS:1161	8	12	
11	25NB PIPE OD33.7xWALL Thk4mm- 1135Lg	IS:1161	4	13	
10	25NB PIPE OD33.7xWALL Thk4mm- 1265Lg	IS:1161	4	15	
9	25NB PIPE OD33.7xWALL Thk4mm- 1295Lg	IS:1161	8	30	
8	M5 HEX. BOLT AND NUT WITH TWO WASHERS- 55Lg	IS:1364	12	-	PROPERTY CLASS:8.8
7	M24 HEX. BOLT AND NUT WITH TWO WASHERS- 105Lg	IS:1364	8 sets	-	PROPERTY CLASS:8.8
6	STAIR CASE & HANDRAIL DETAILS	-	-	1072	REF SHEET NO: 7 OF 7
5	FOLDING PLATFORM DETAILS	-	4	1024	REF SHEET NO: 6 OF 7
4	FIXED PLATFORM STRUCTURAL DETAILS	-	2	3926	REF SHEET NO: 5 OF 7
3	COLUMN LAYOUT	-	1	3648	REF SHEET NO: 4 OF 7
2	WINCH MECHANISM FOR FOLDING PLATFORM	-	1	200	REF SHEET NO: 3 OF 7
1	FOLDING PLATFORM WITH SAFETY ROPE DETAILS	-	1	28	REF SHEET NO: 2 OF 7

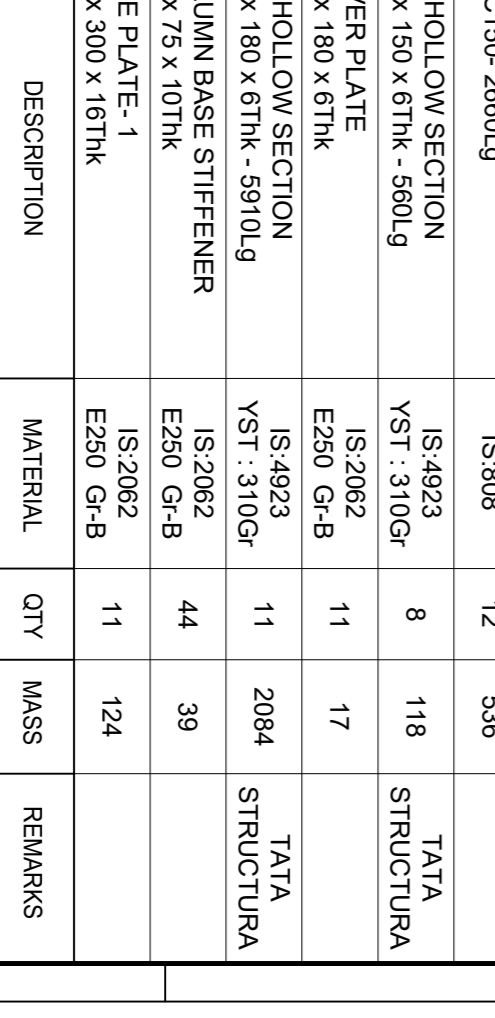
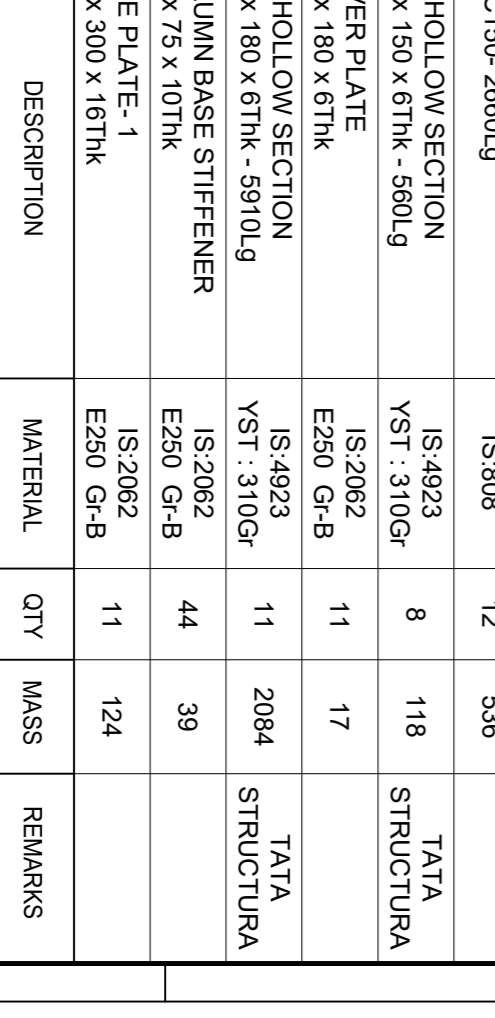
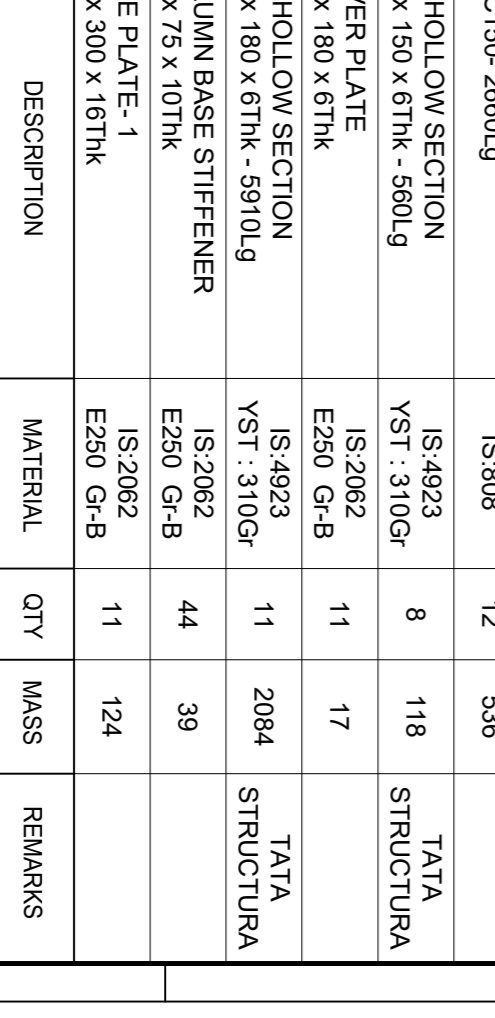
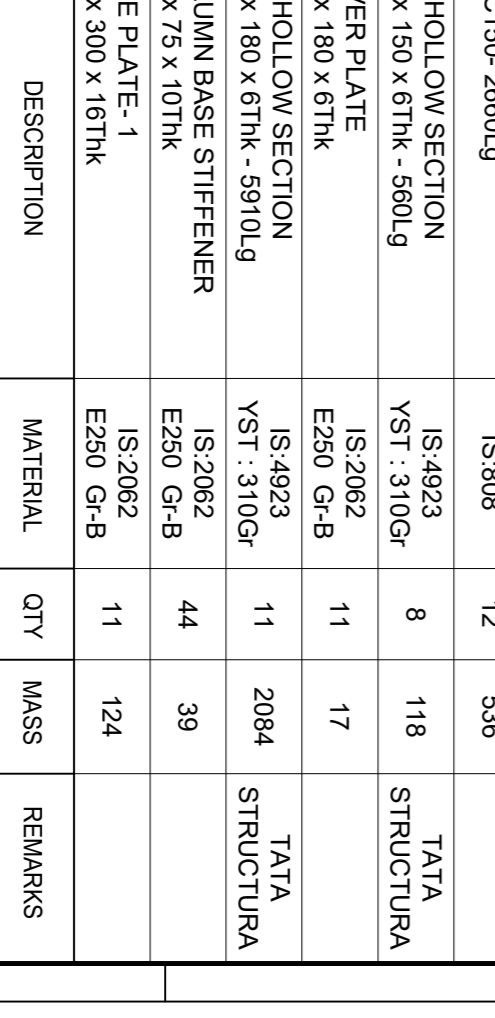
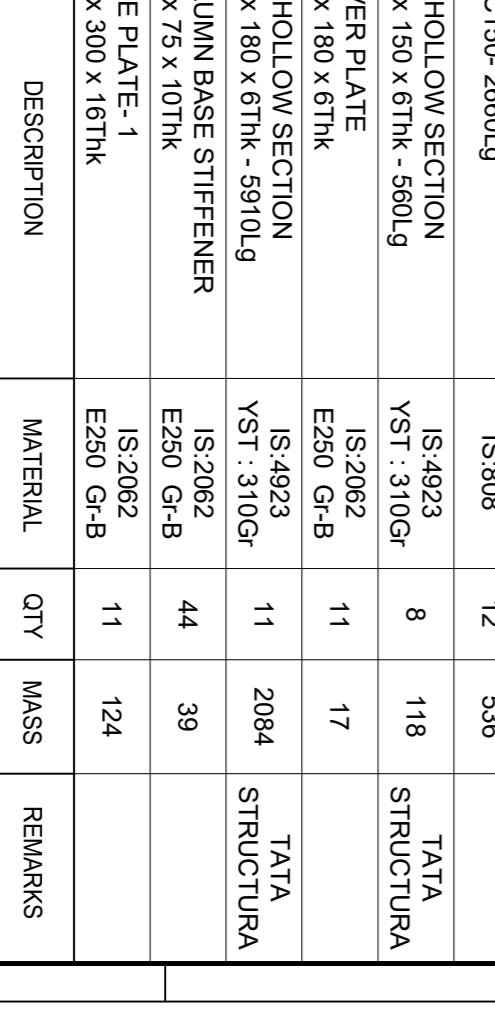
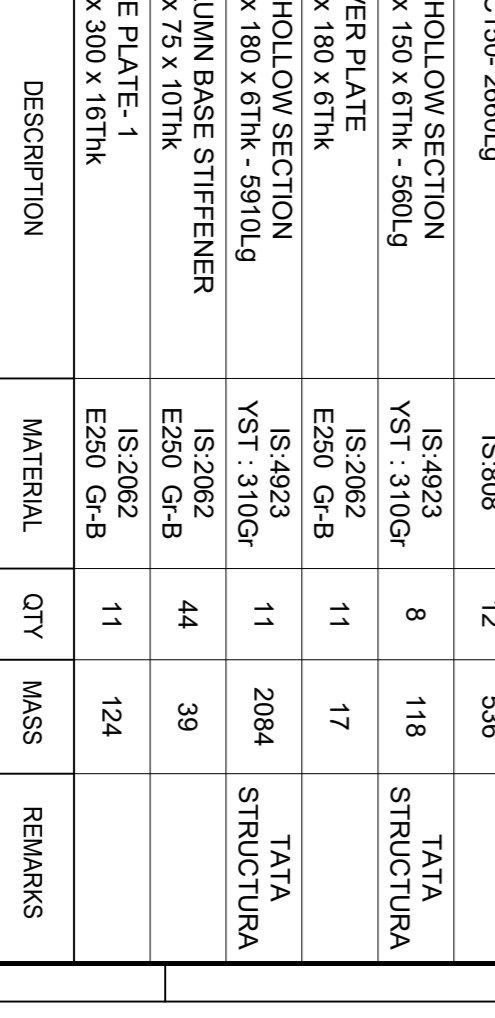
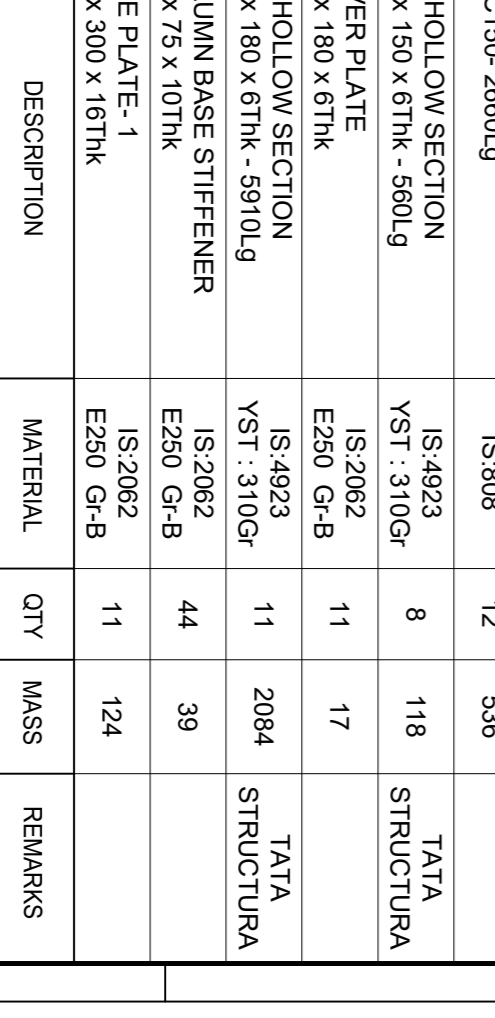
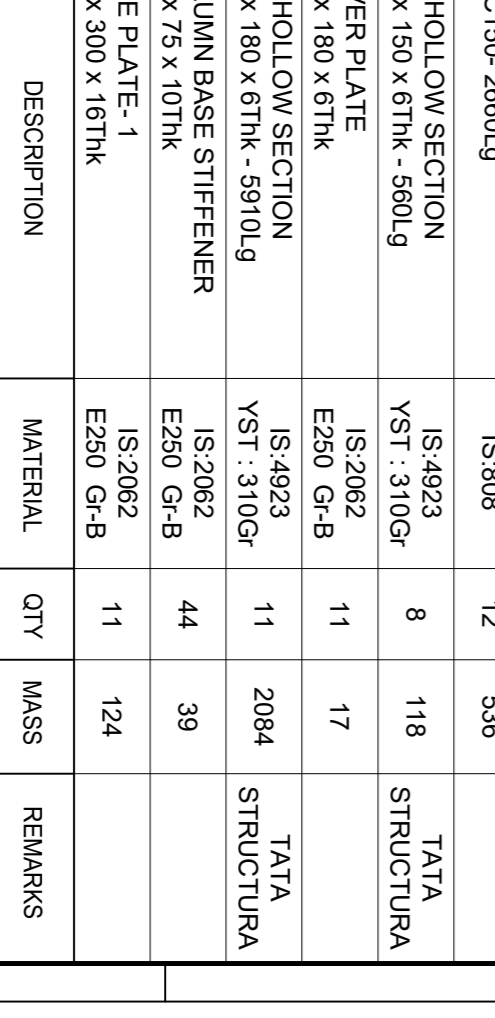
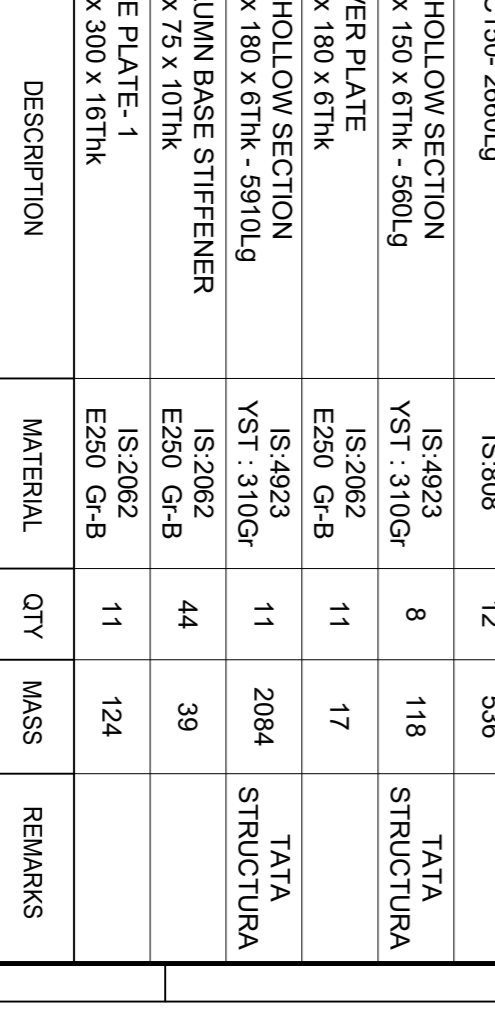
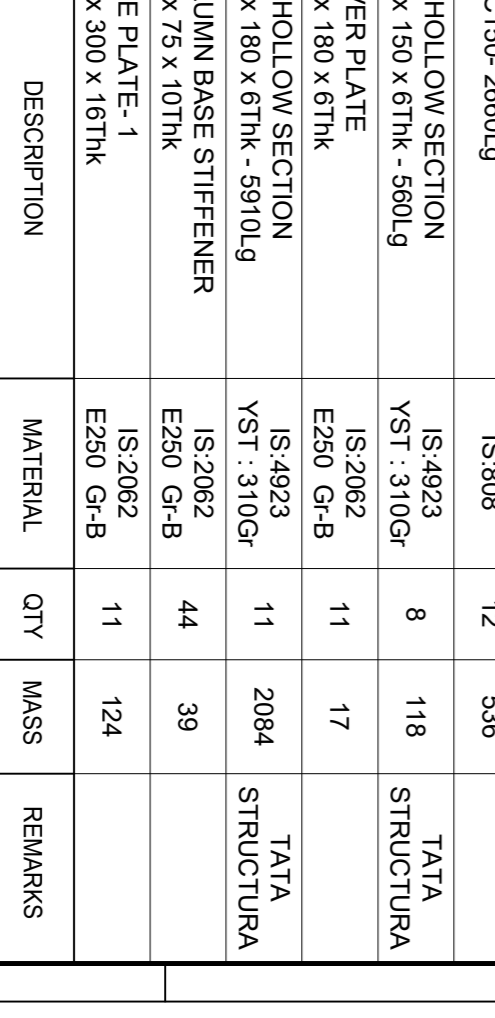
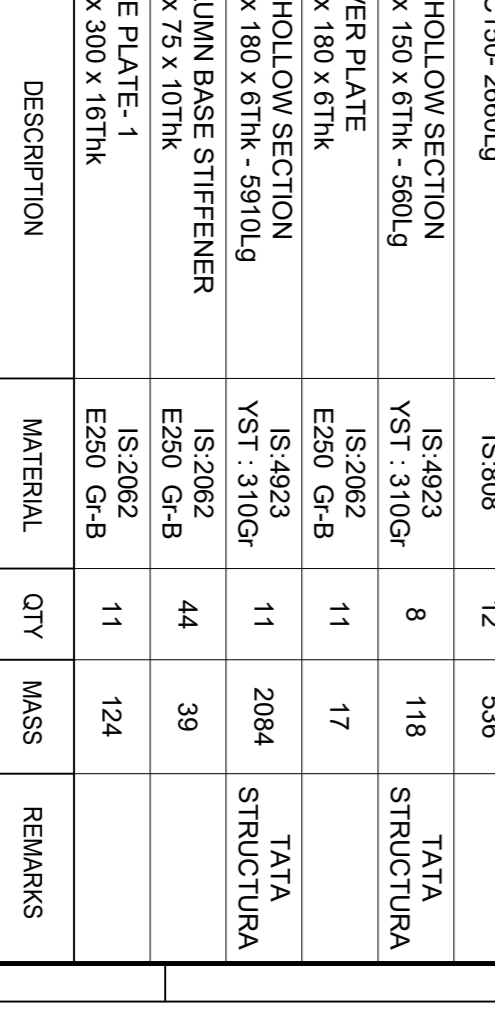
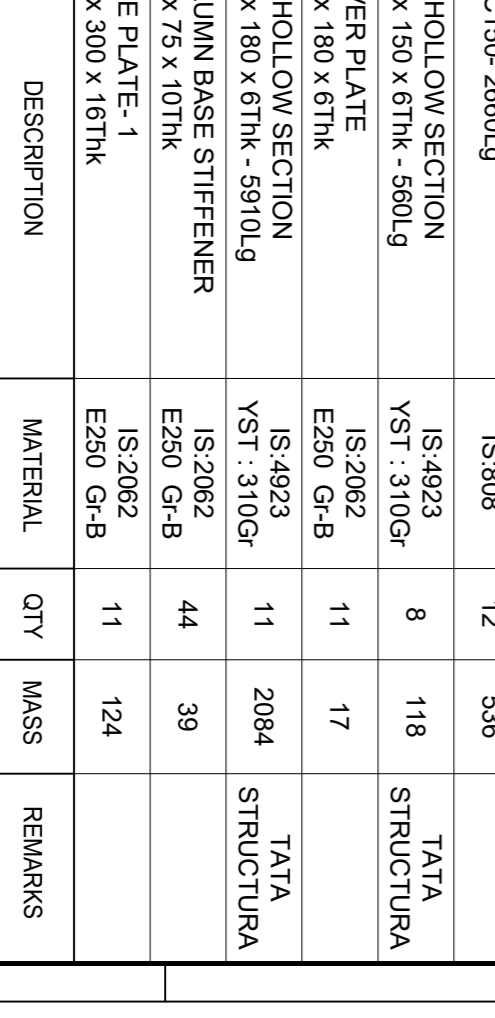
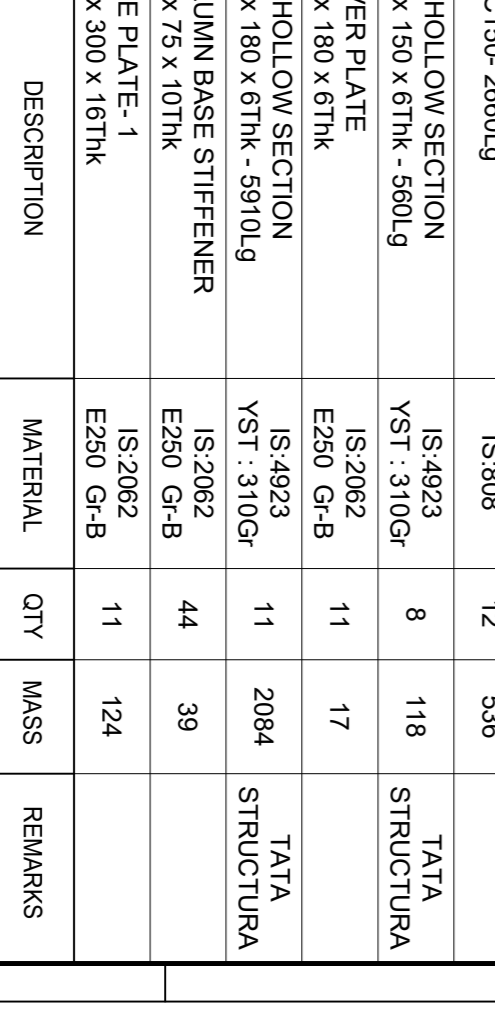
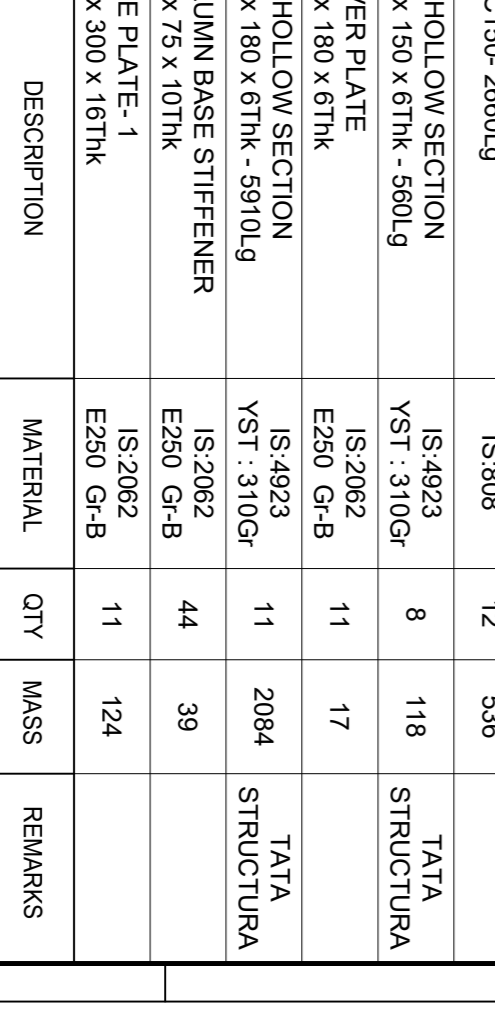
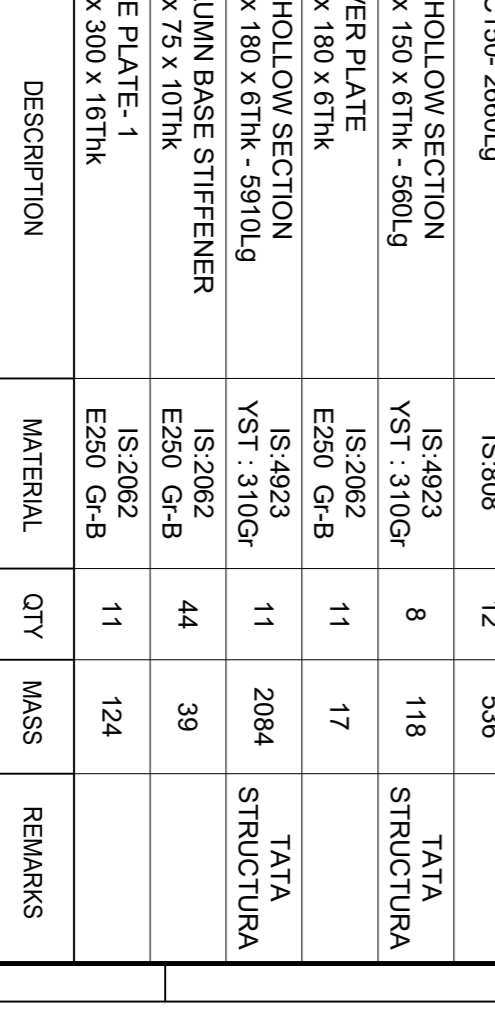
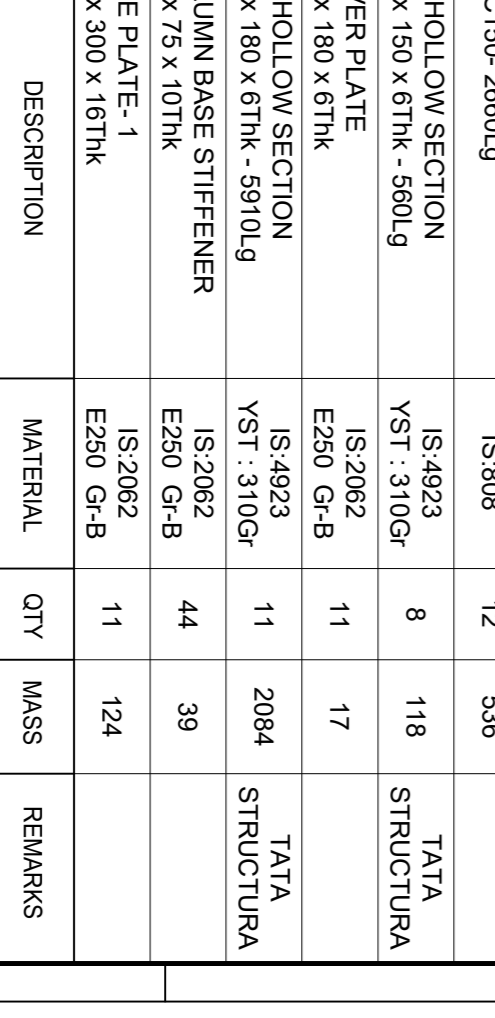
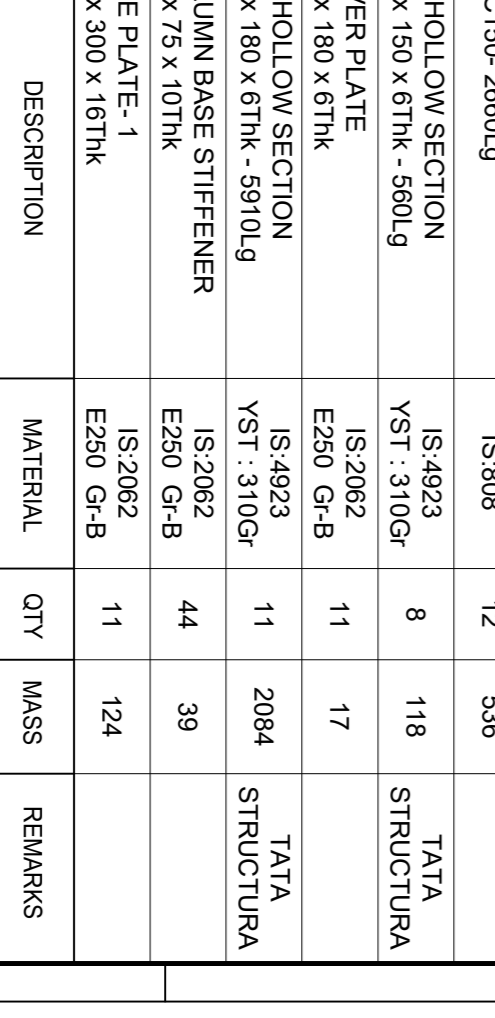
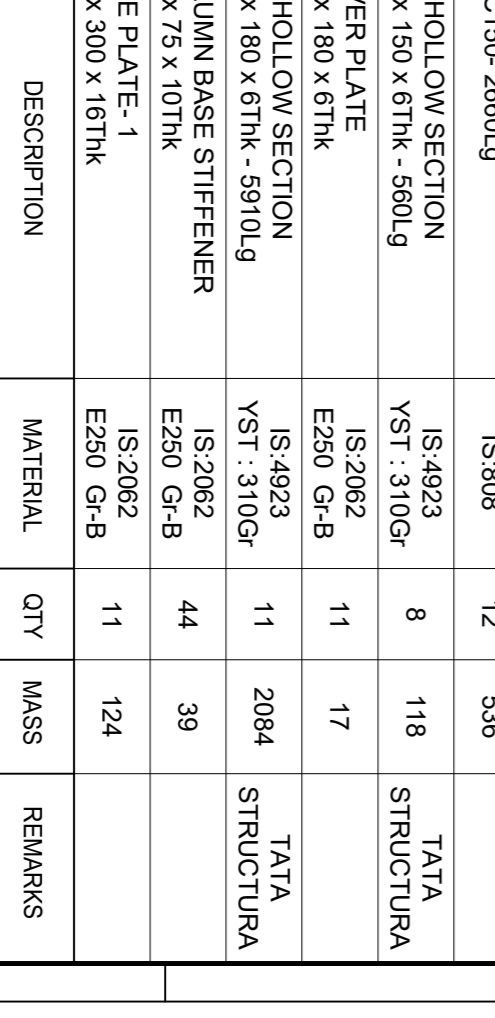
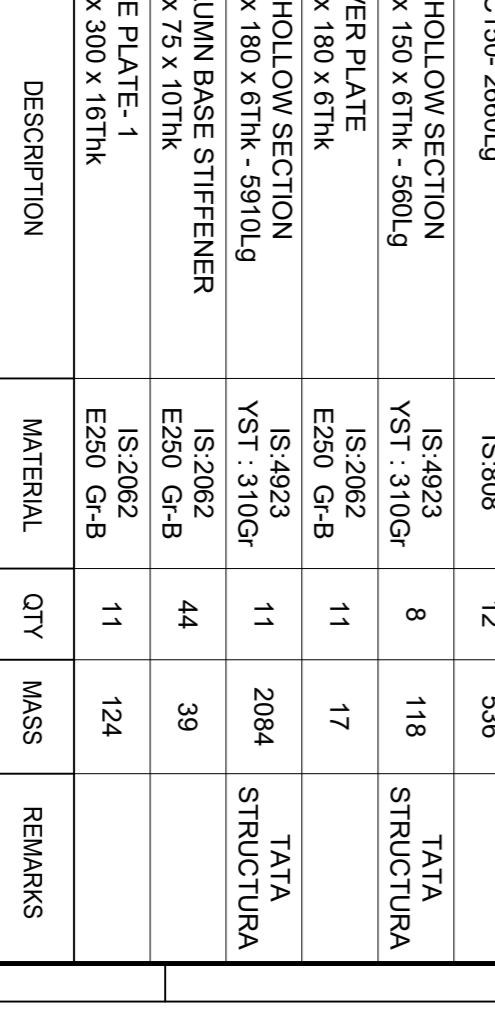
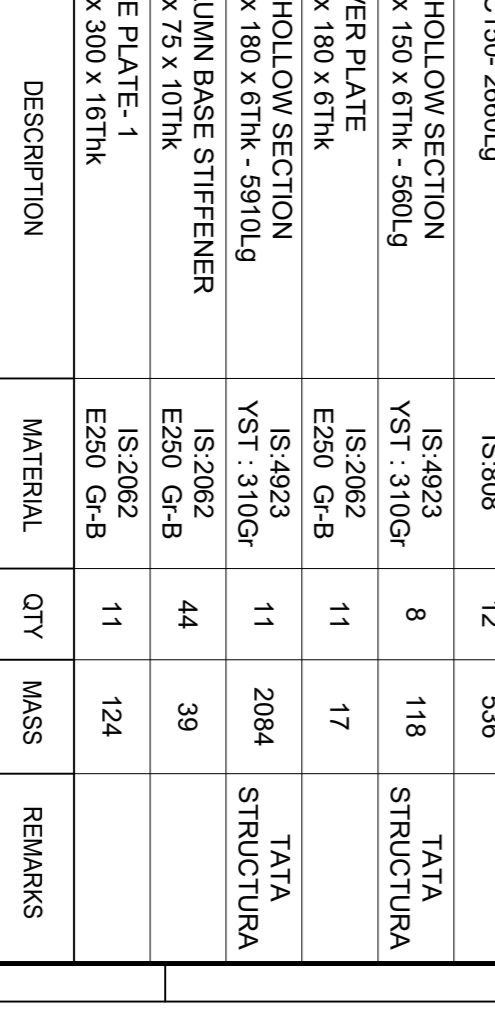
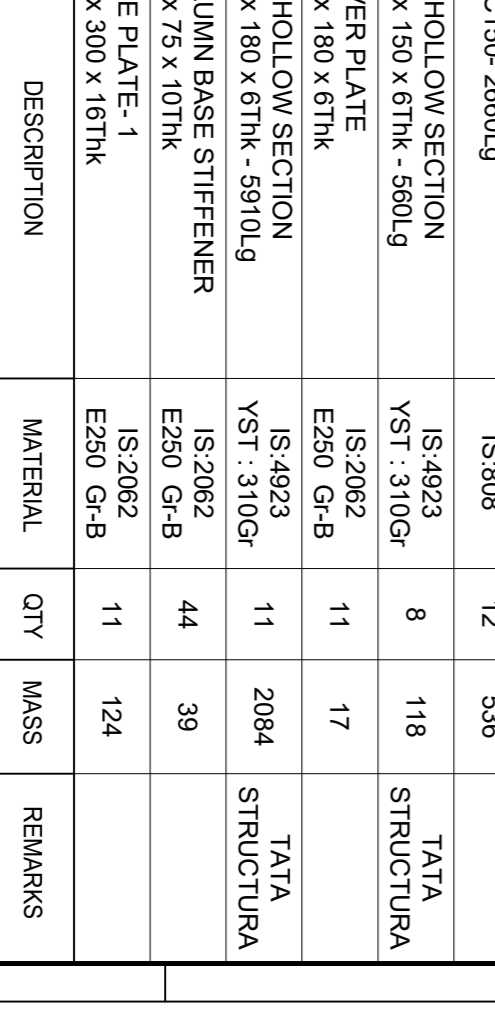
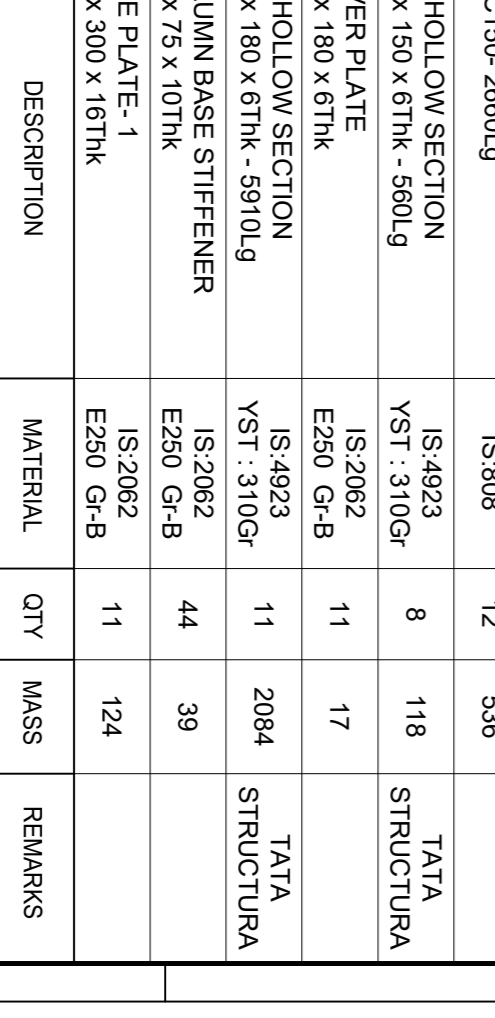
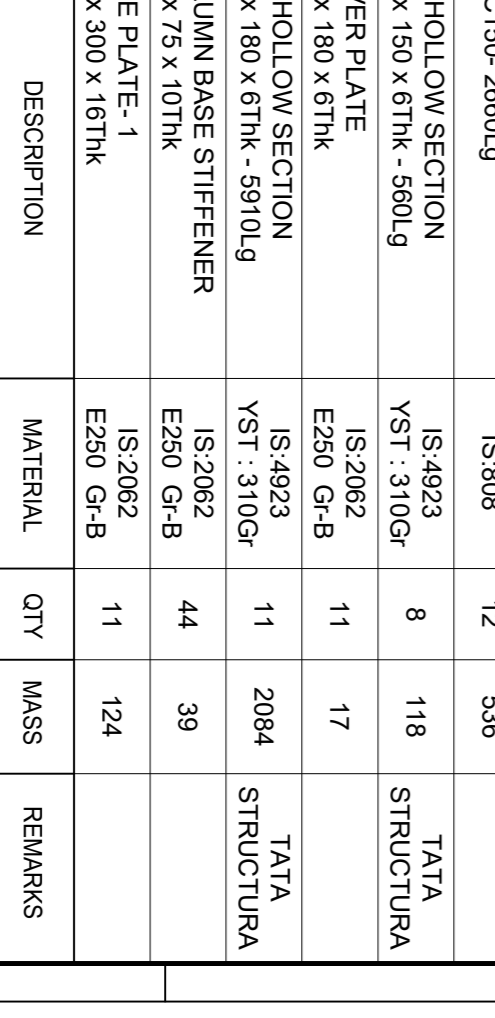
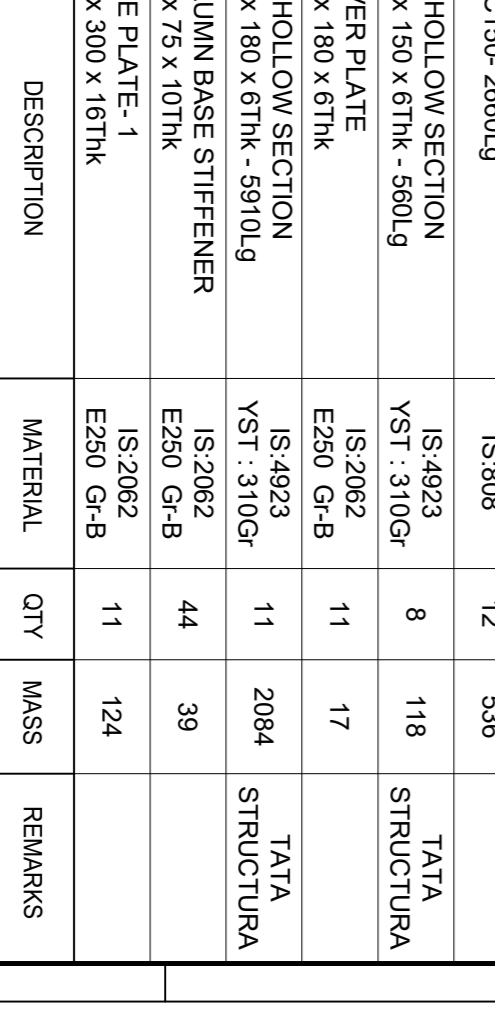
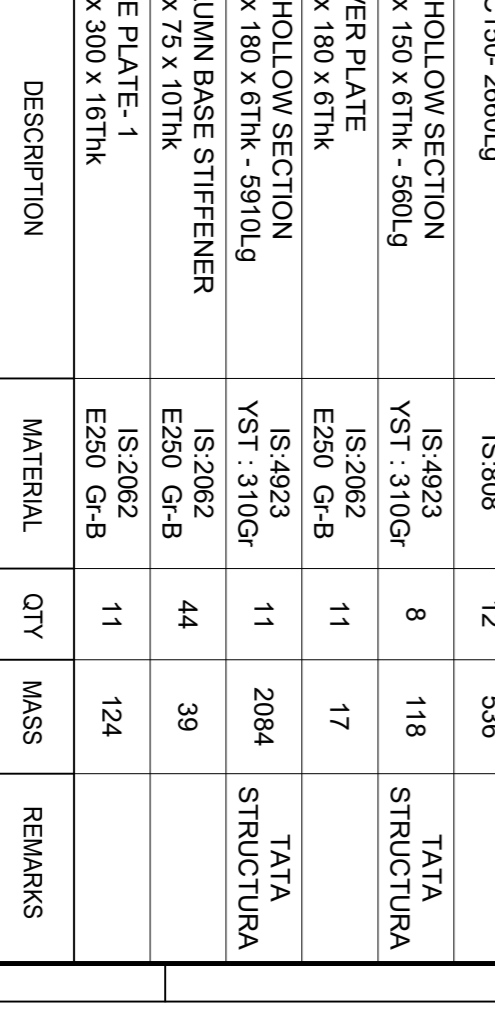
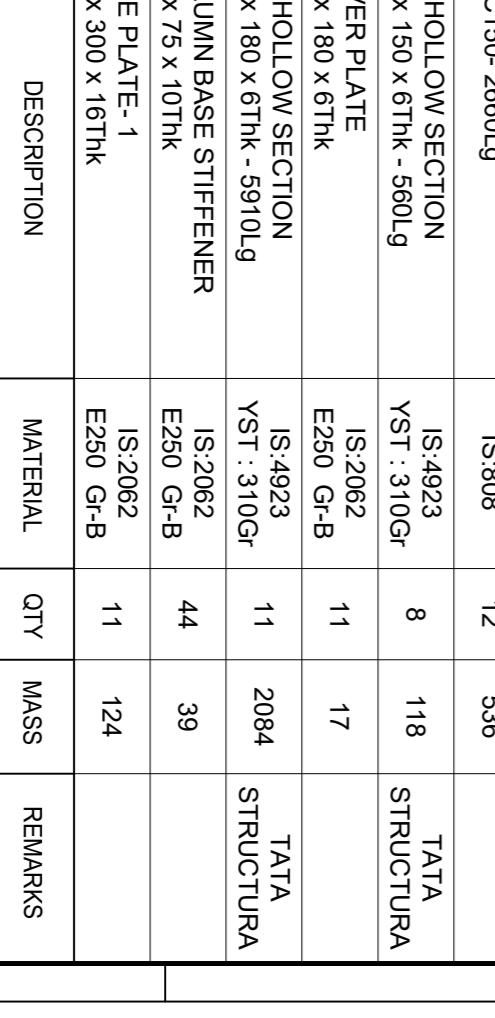
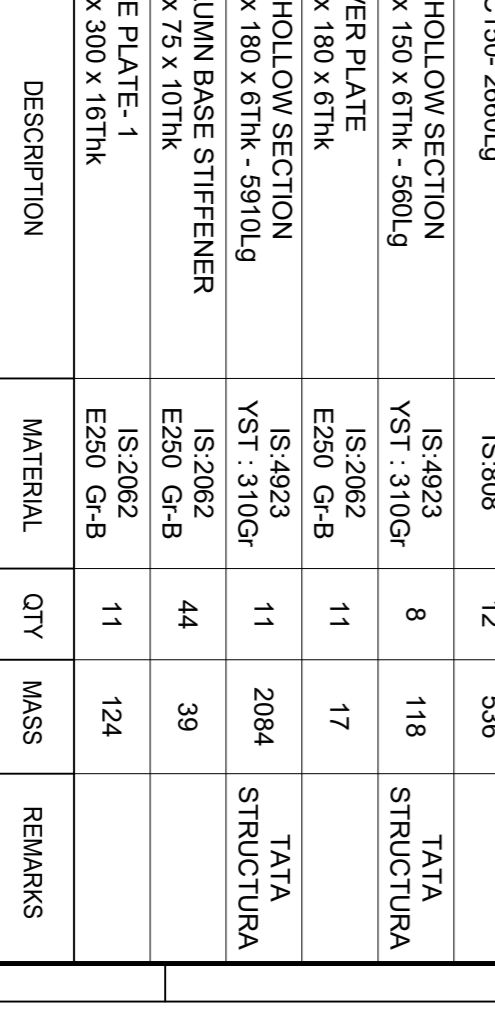
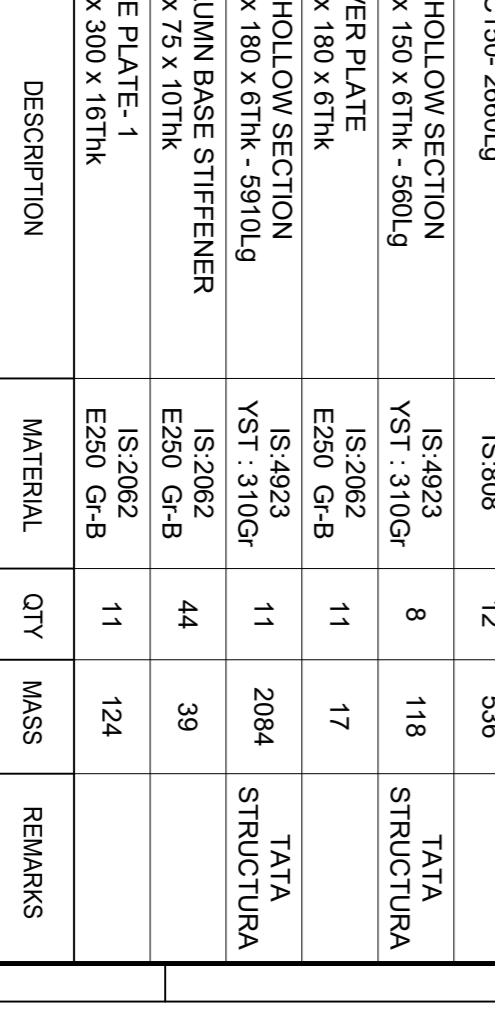
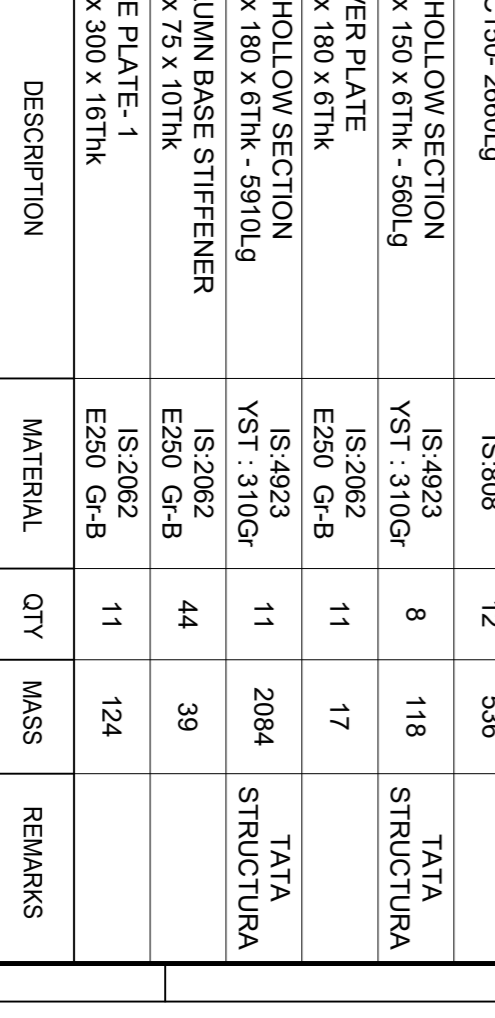
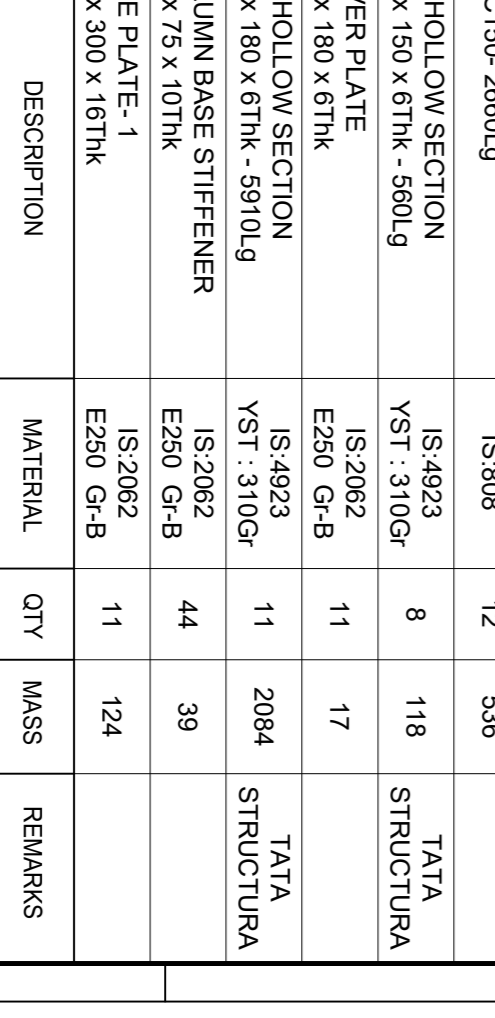
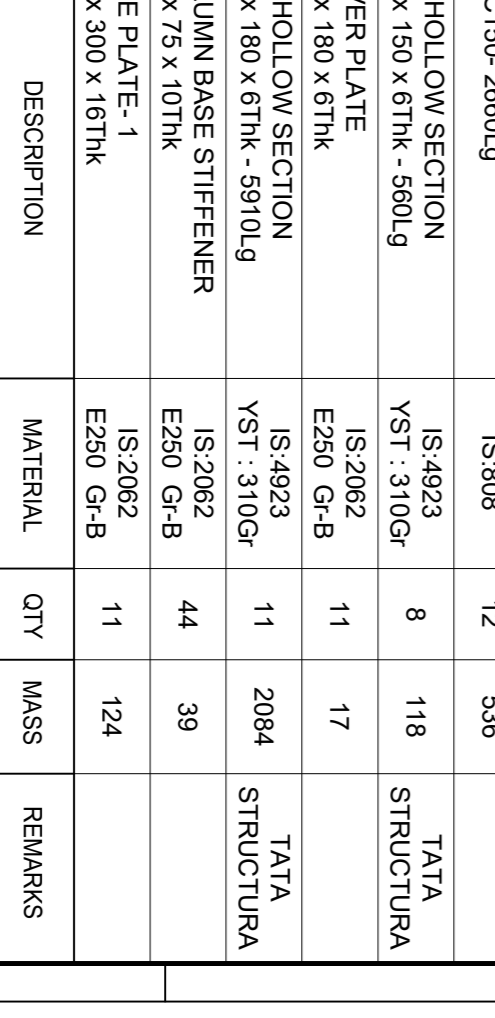
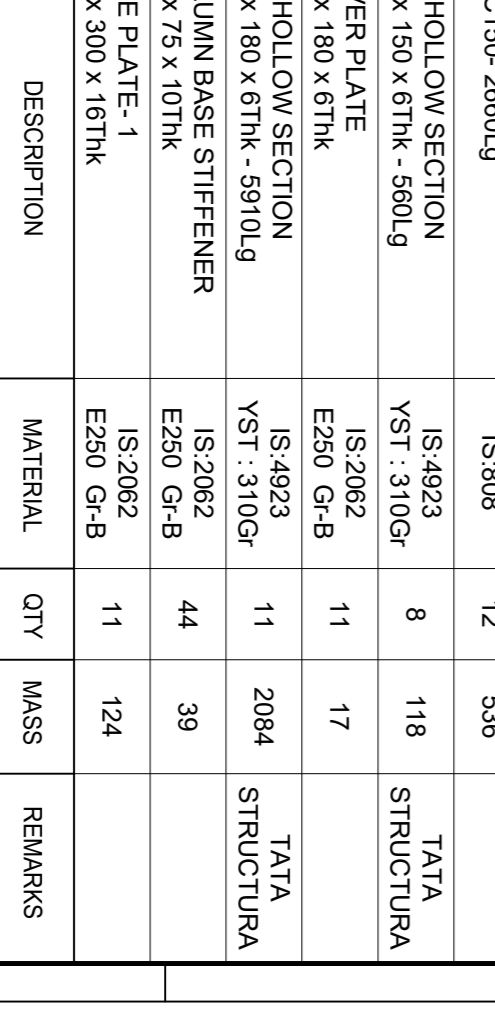
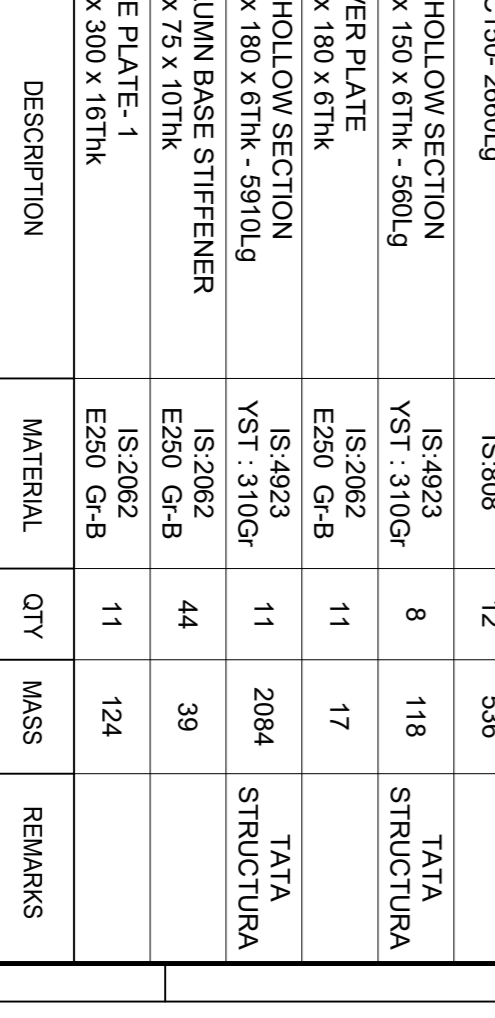
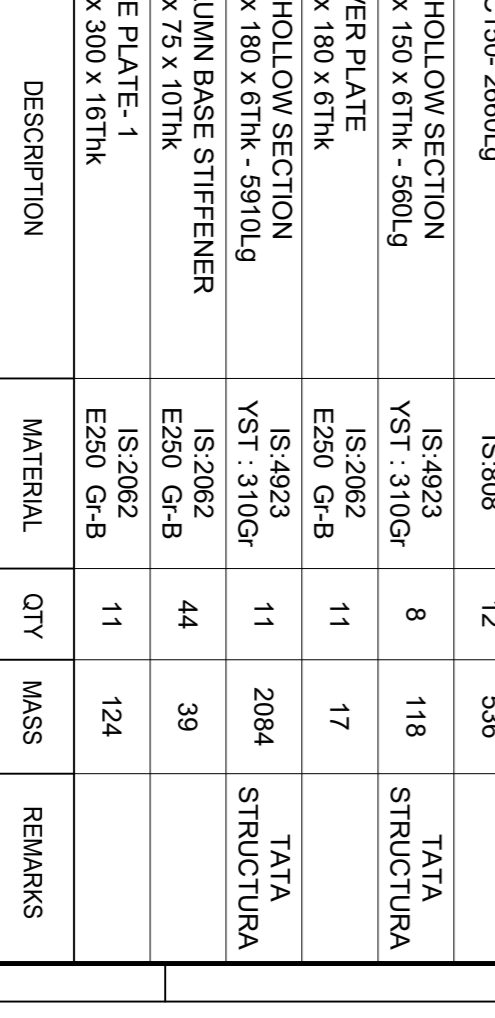
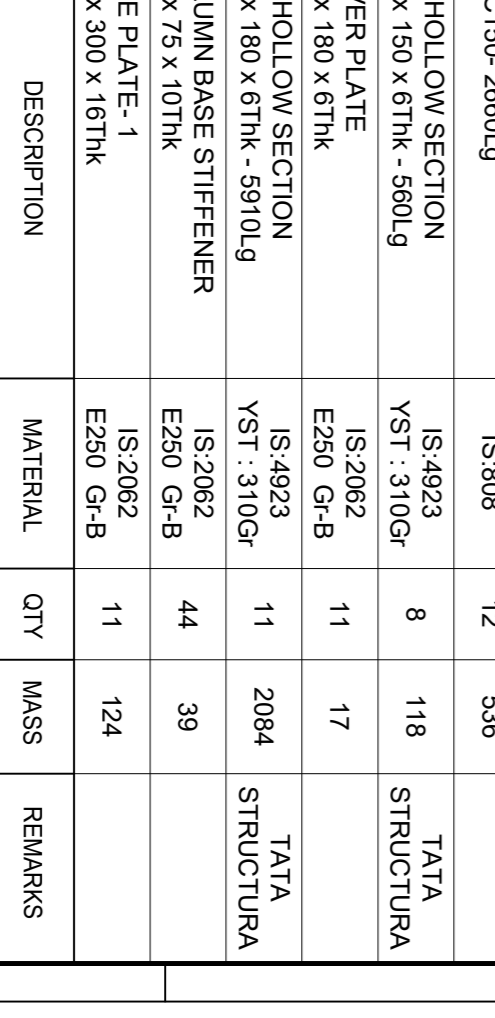
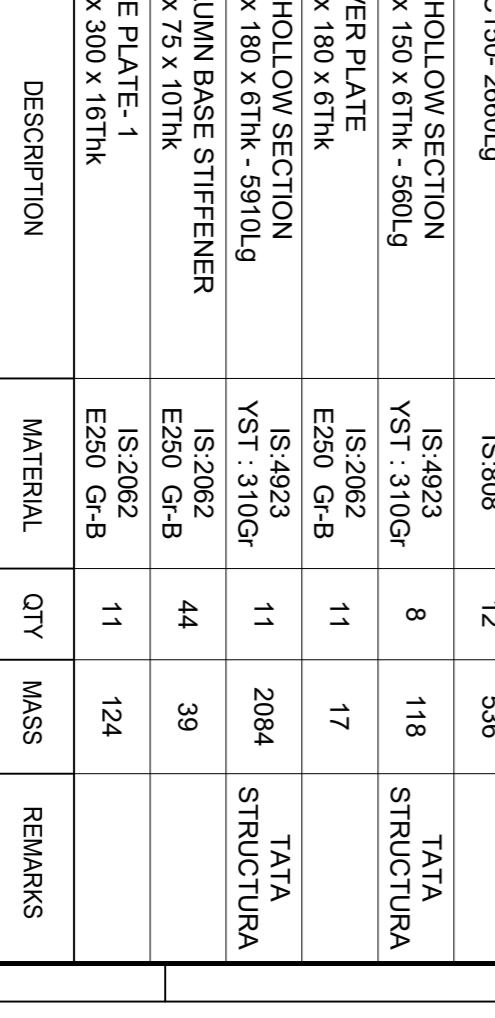
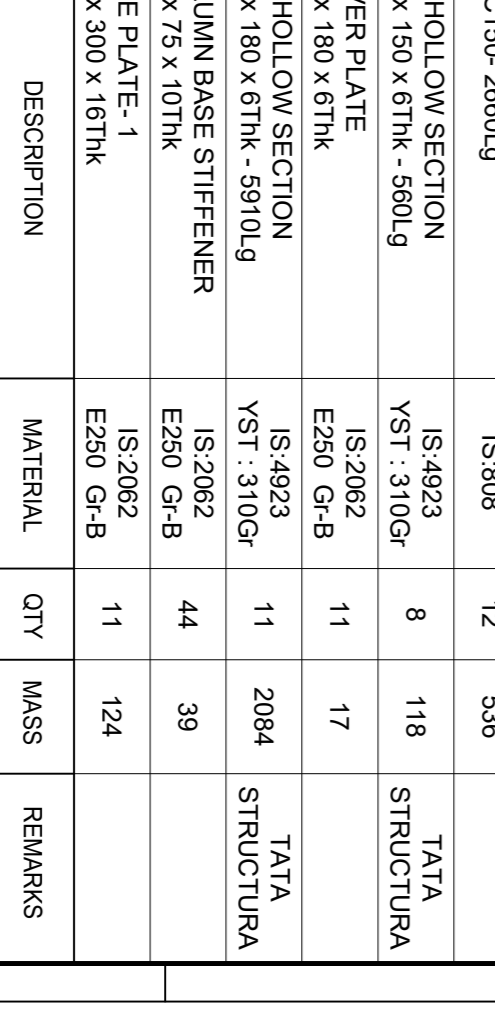
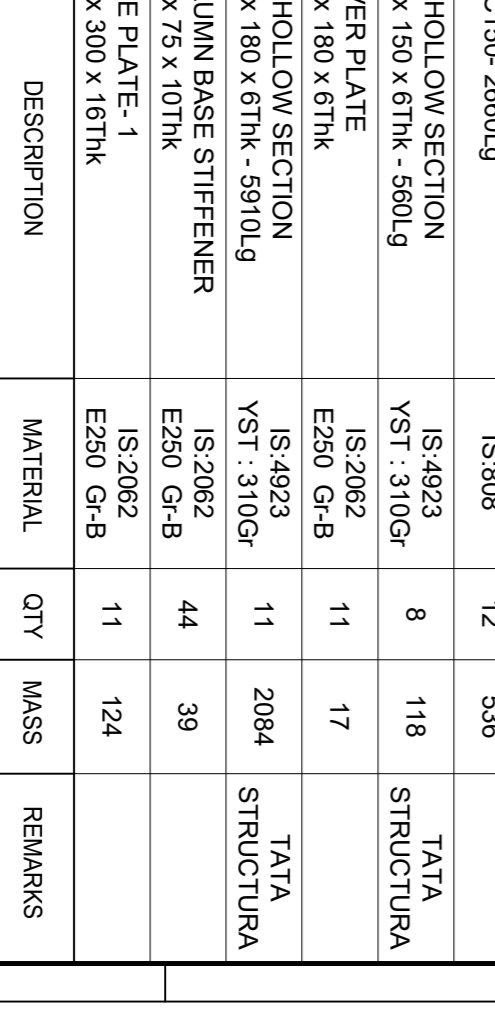
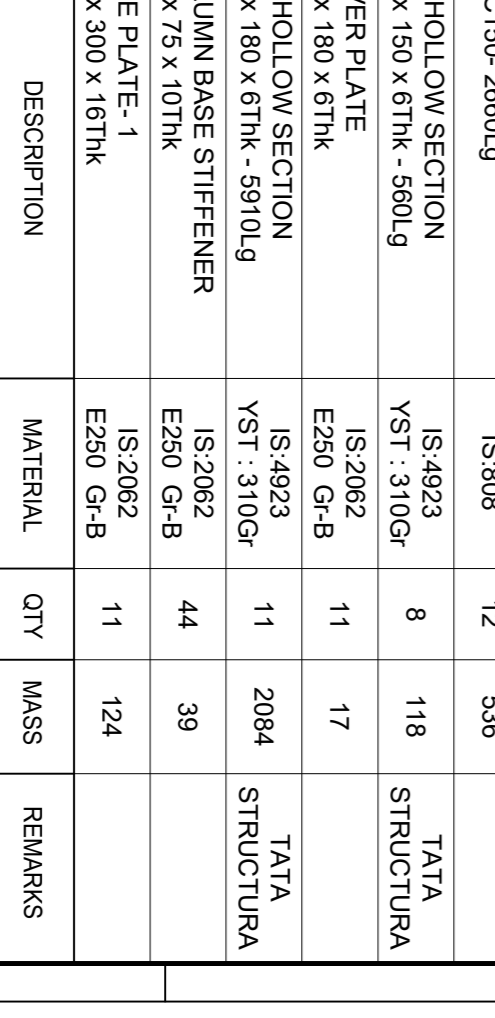
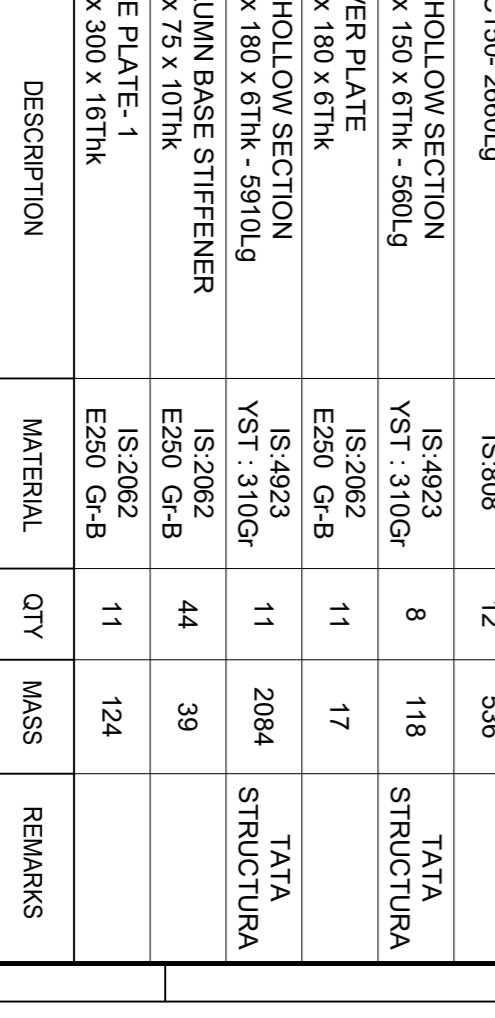
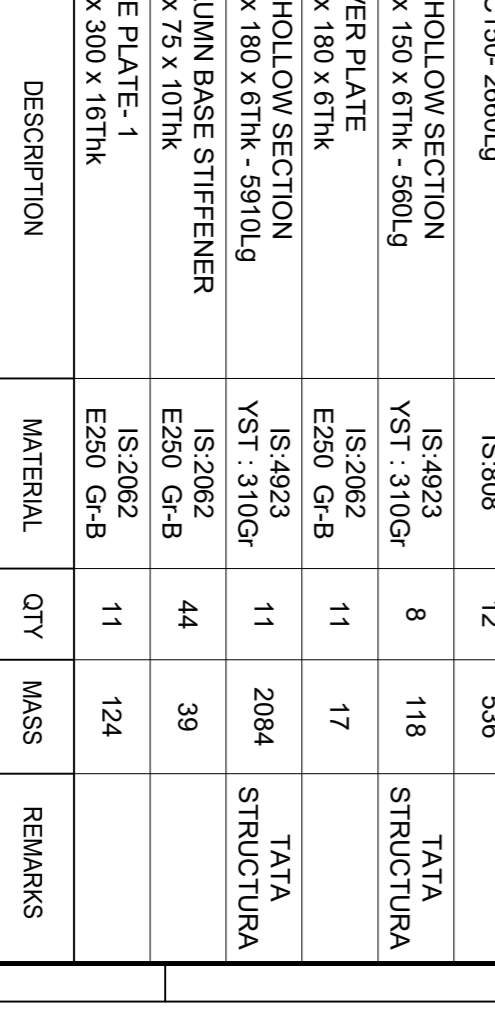
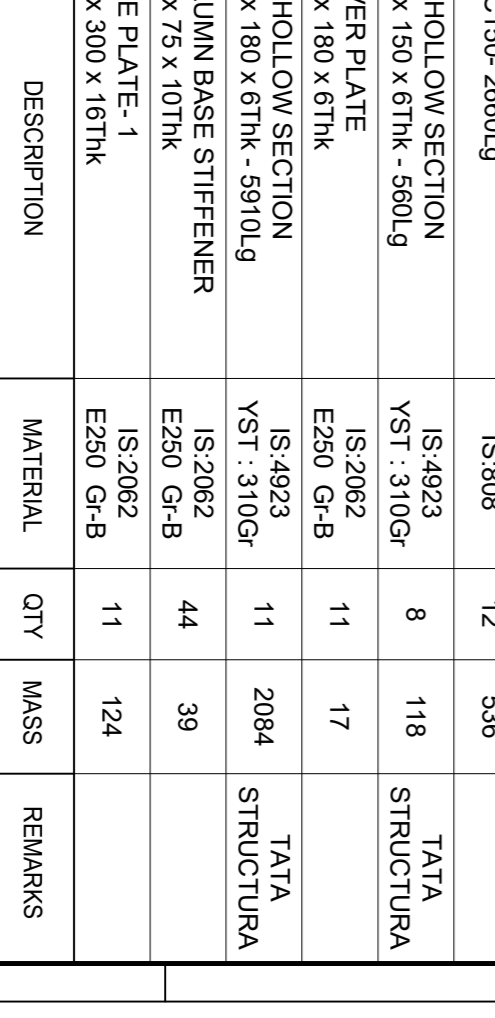
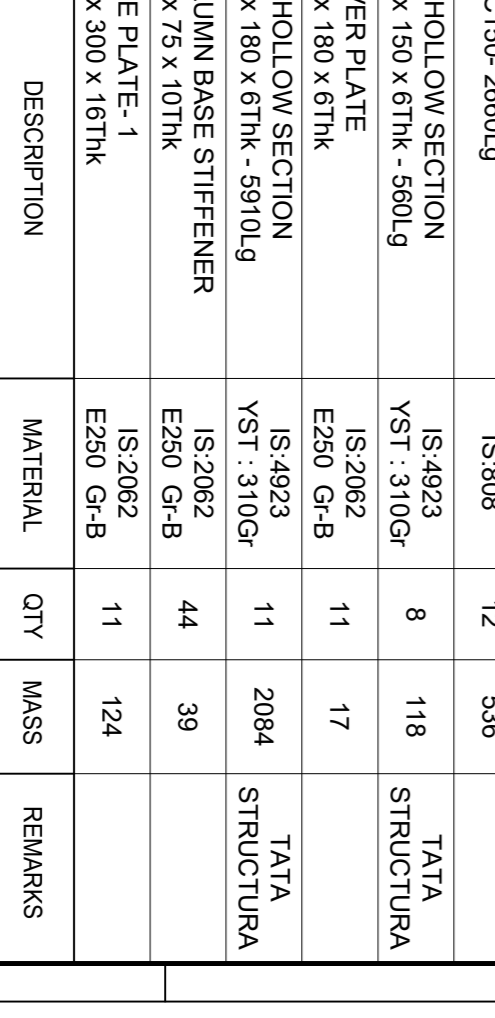
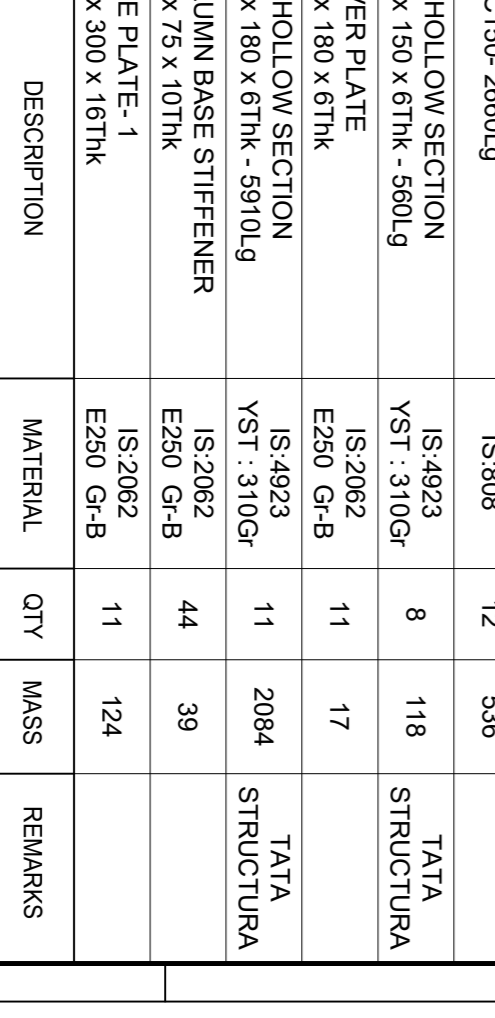
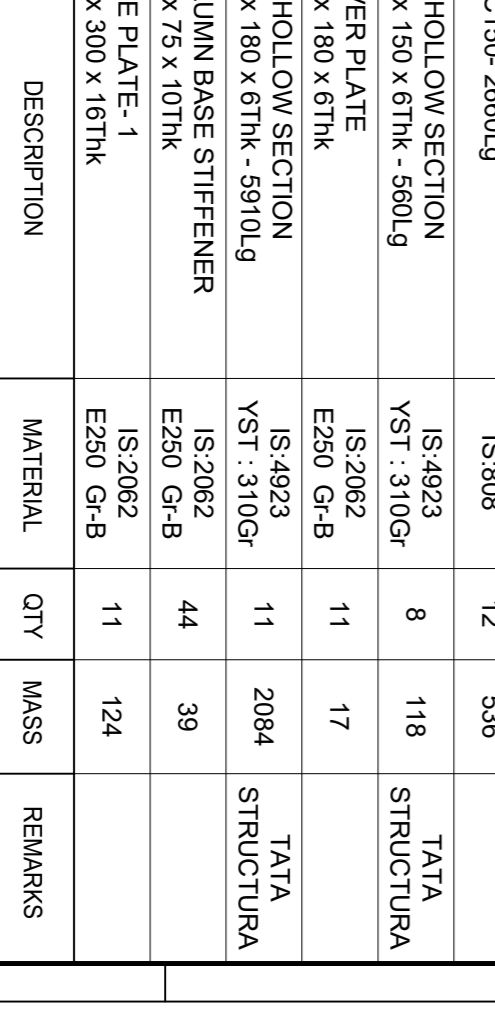
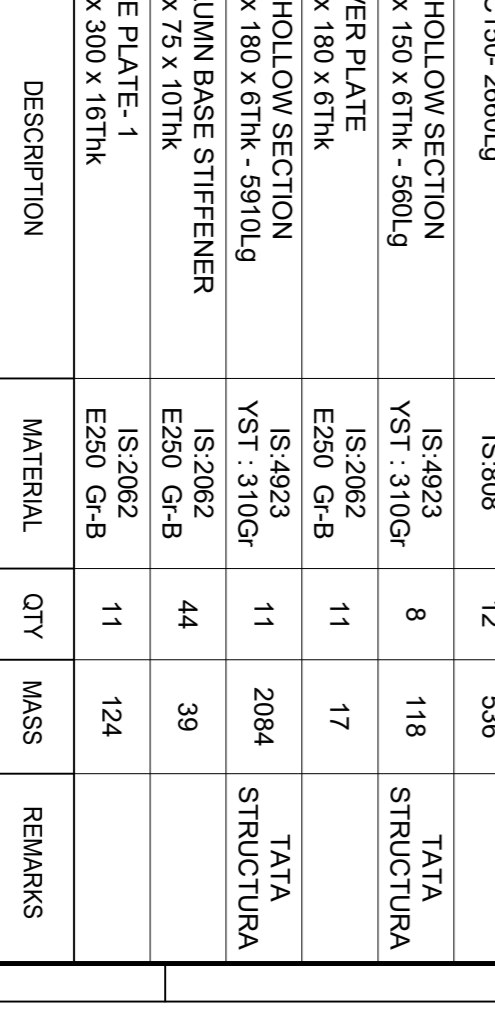
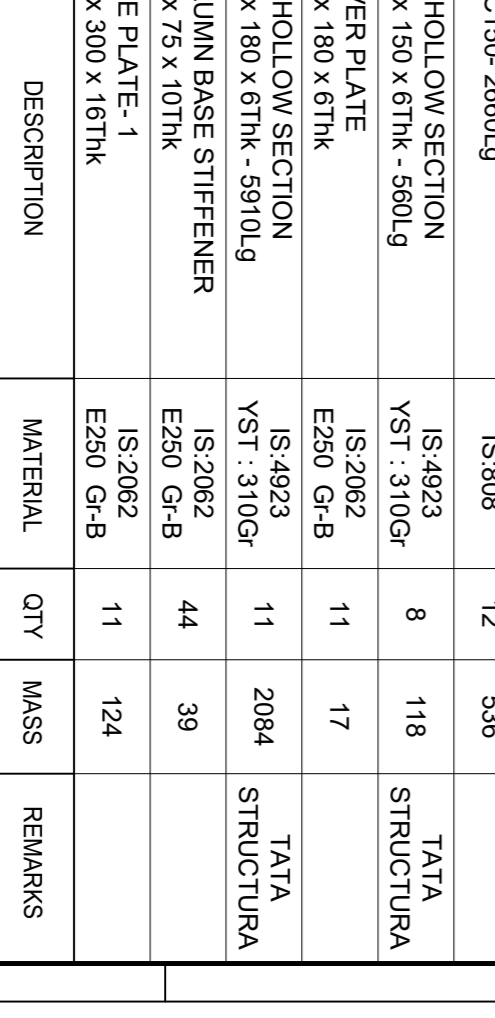
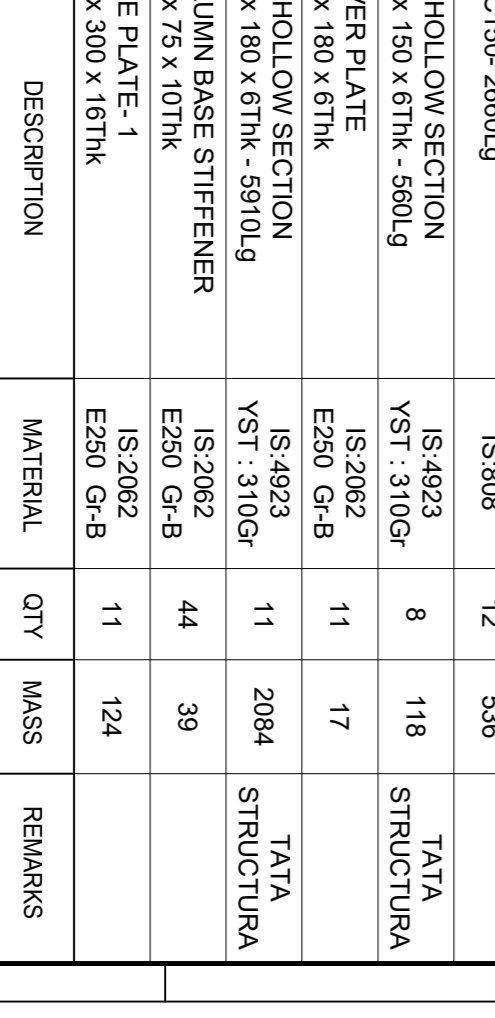
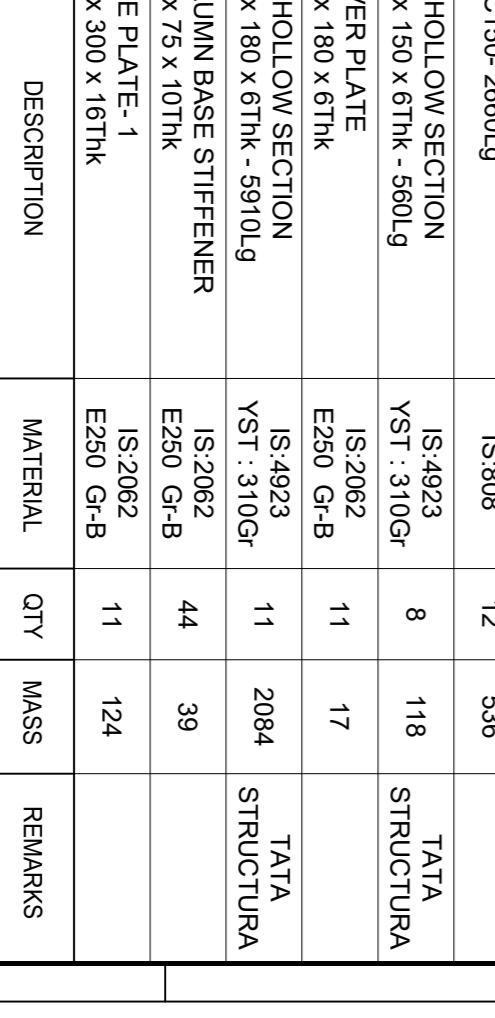
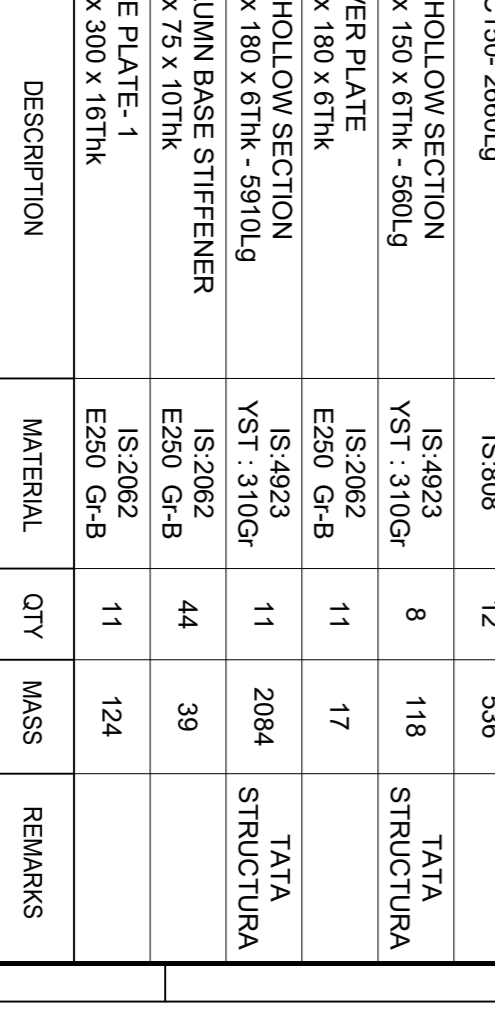
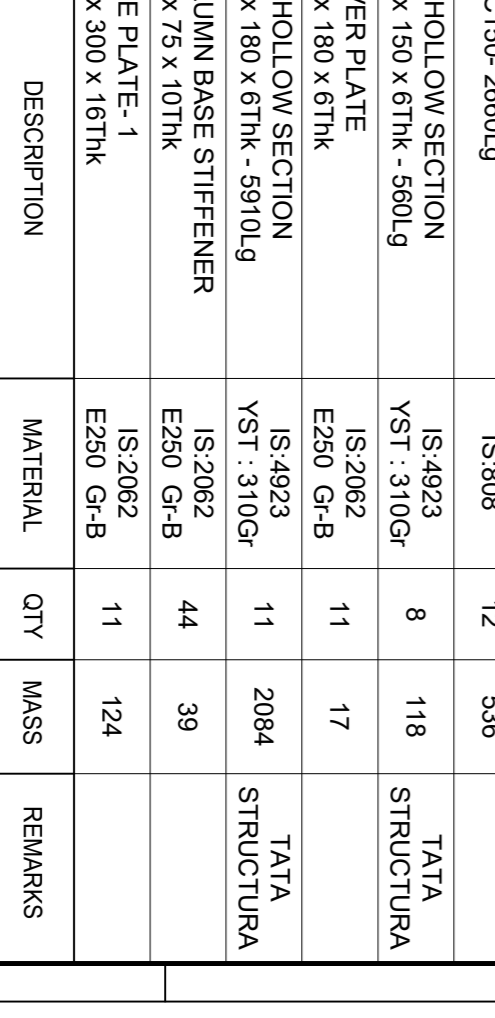
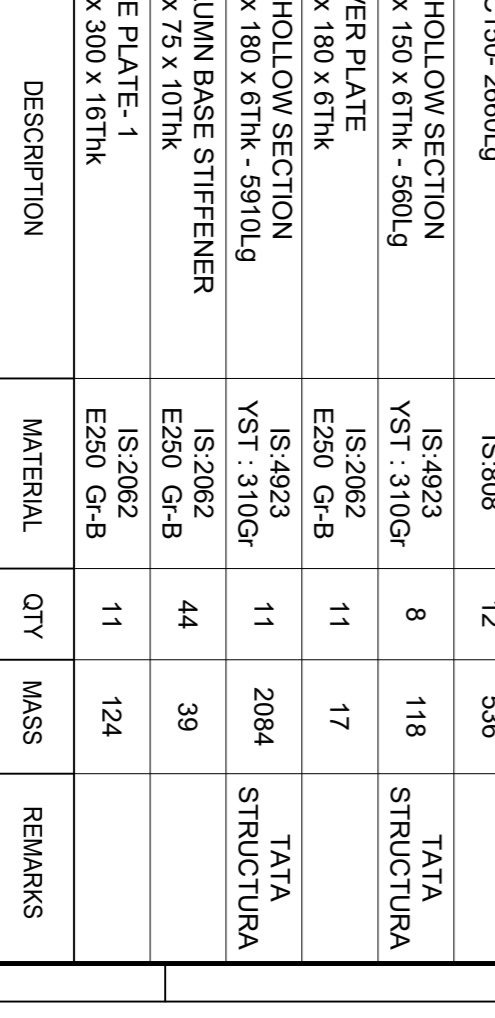
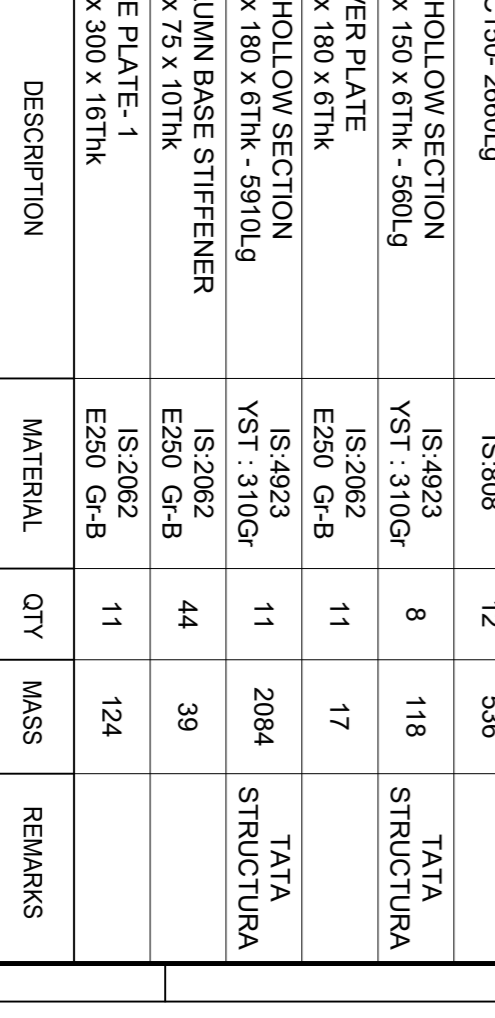
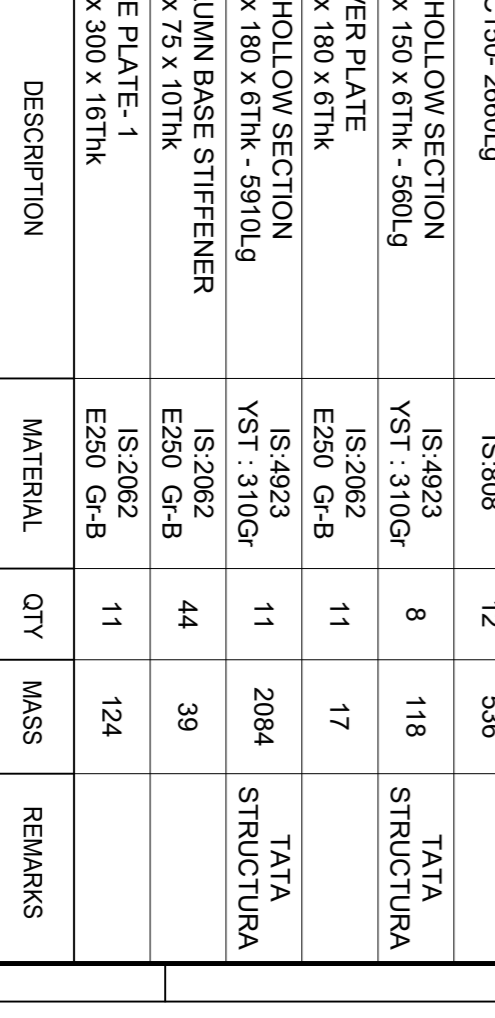
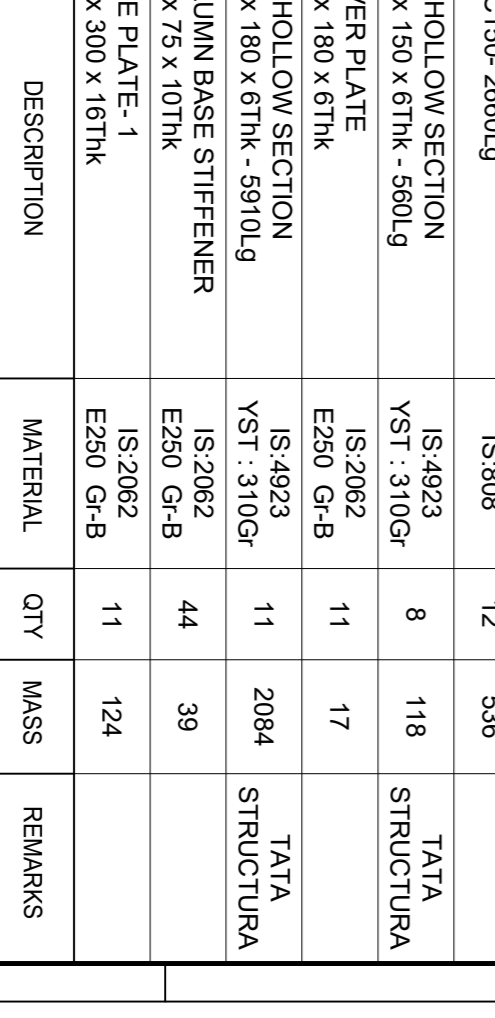
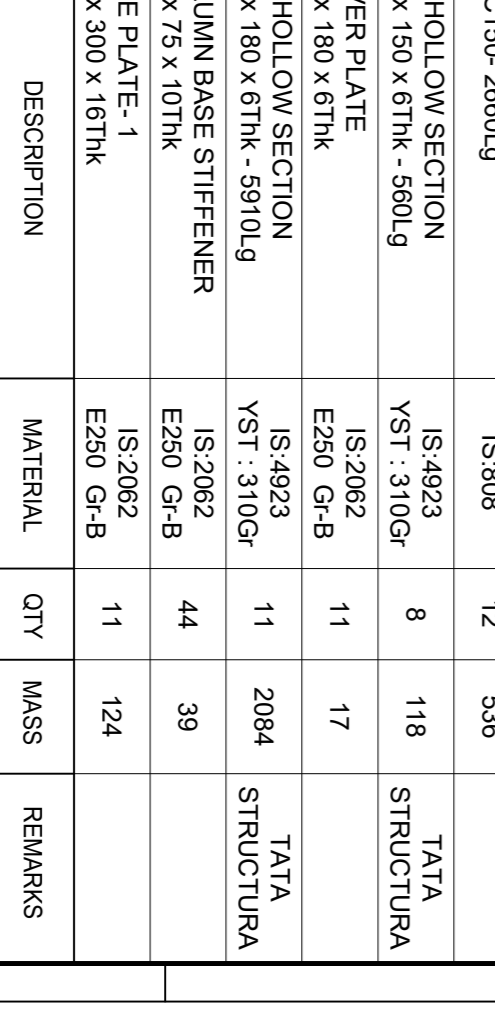
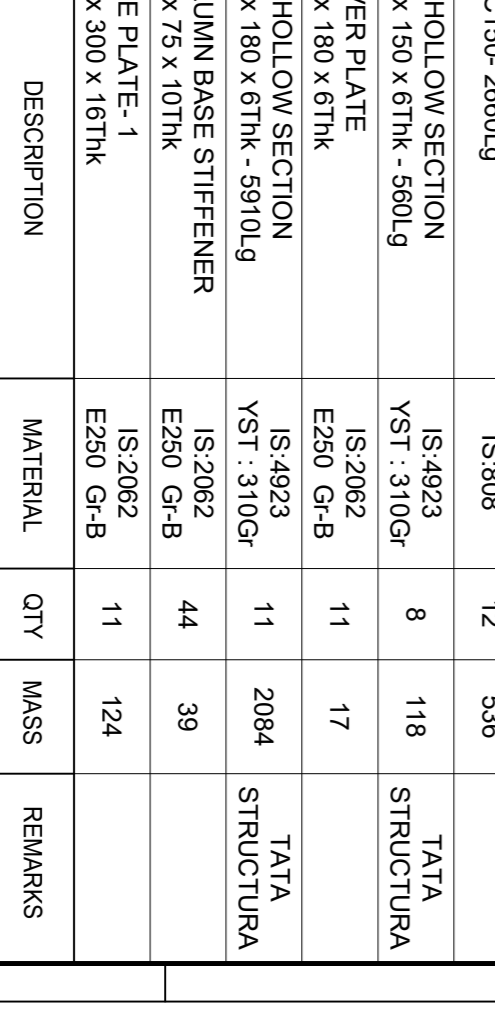
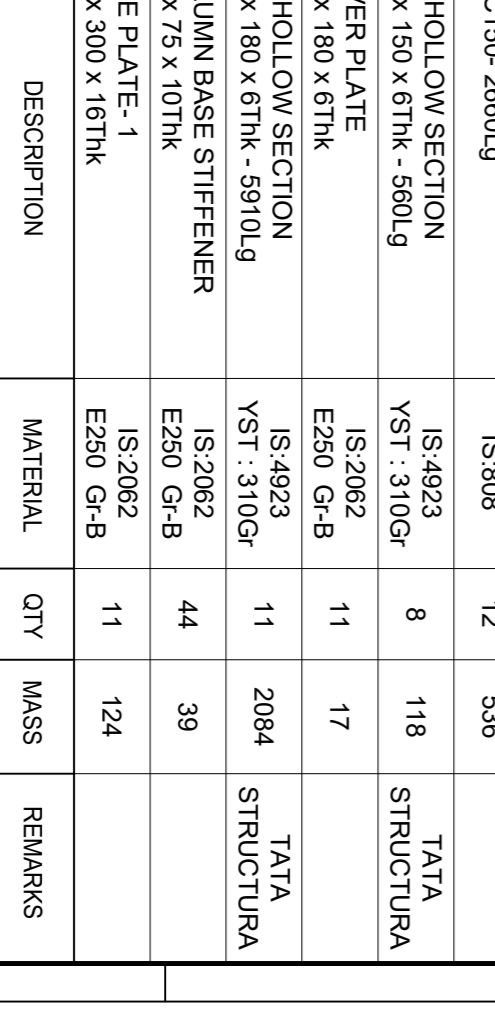
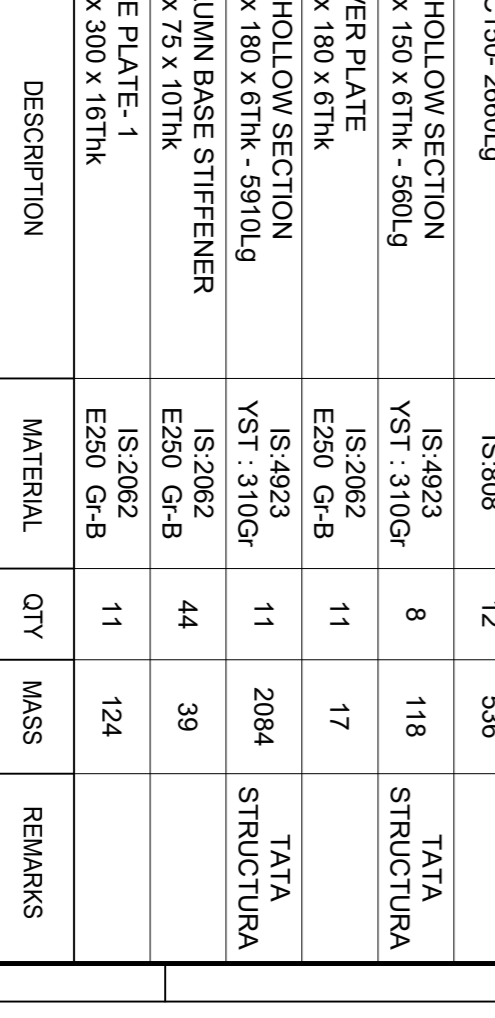
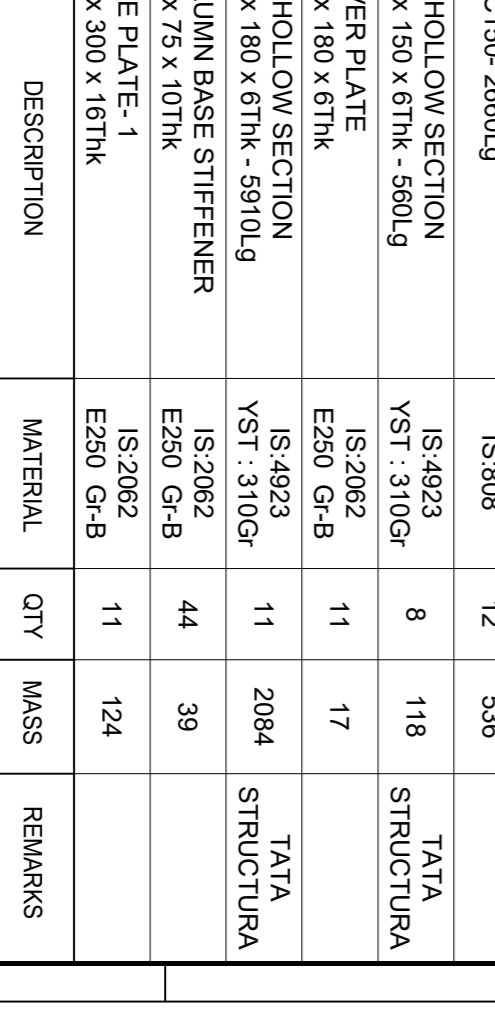
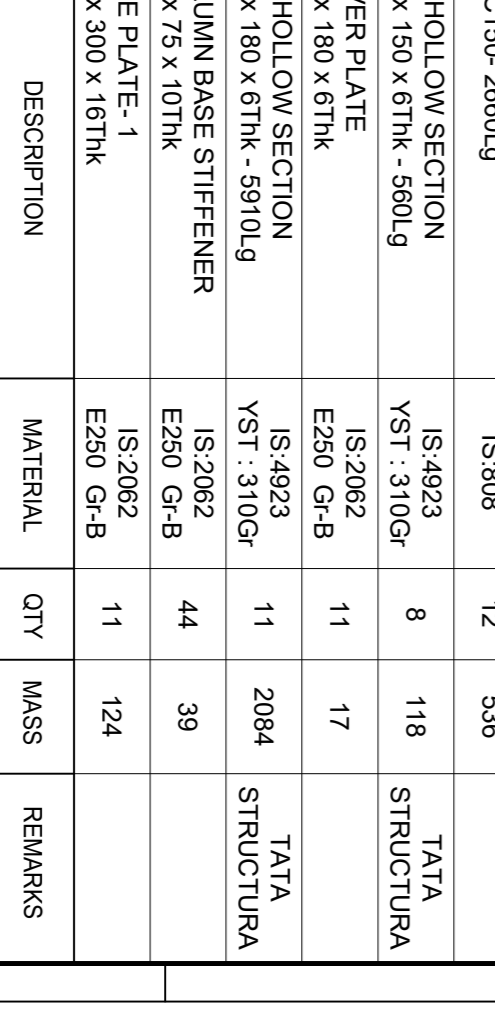
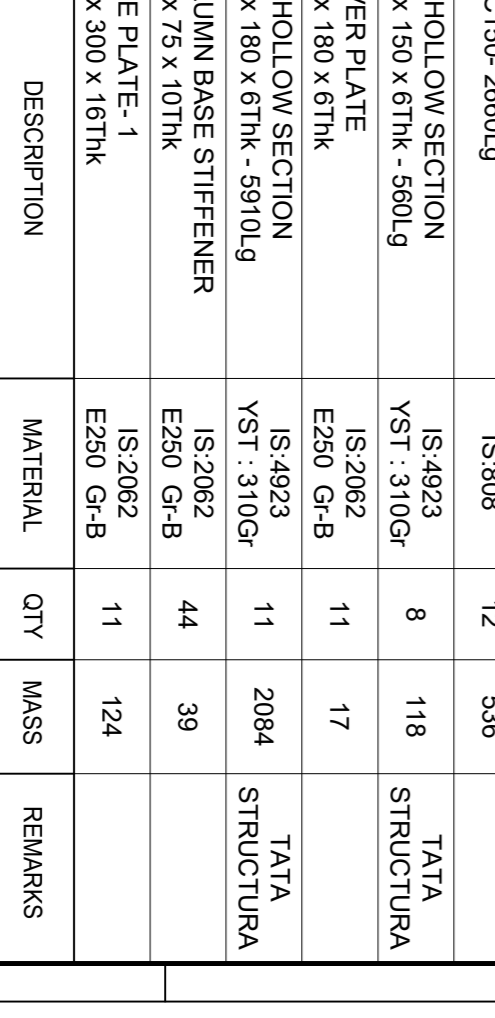
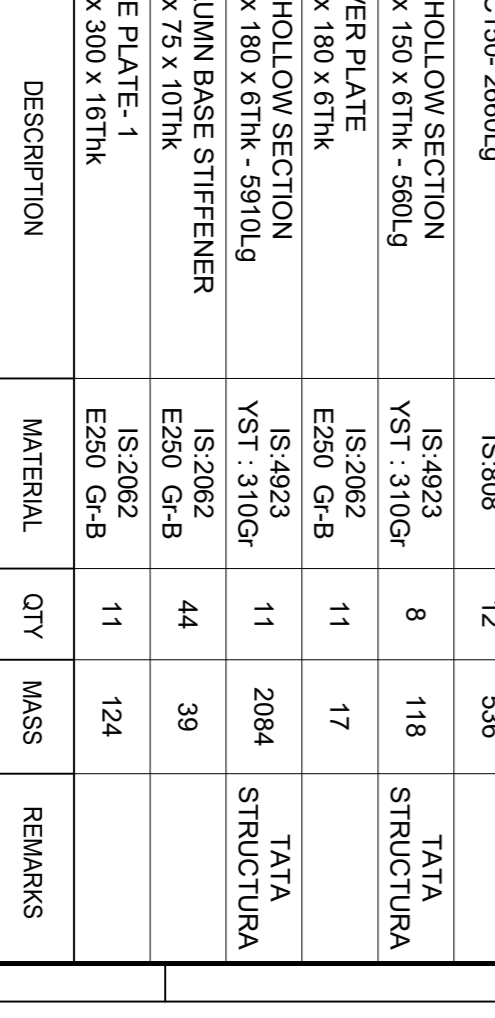
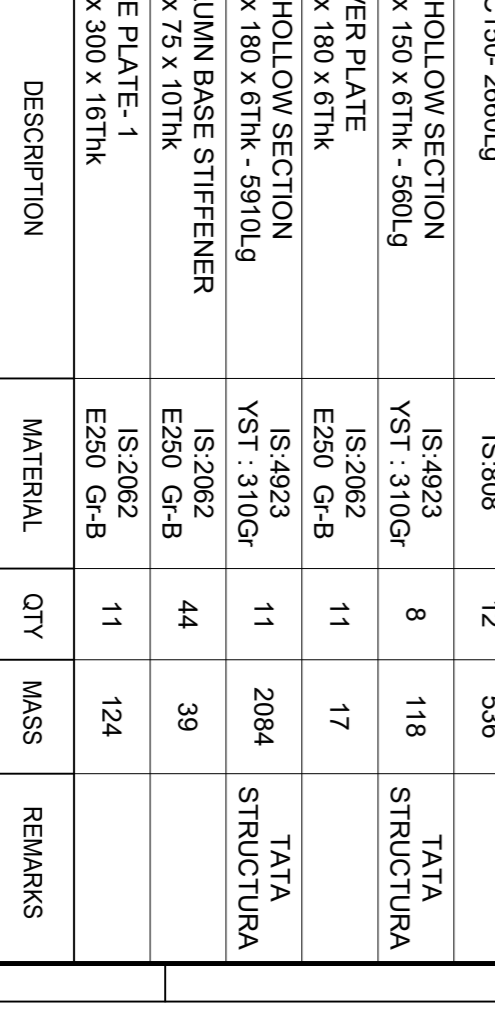
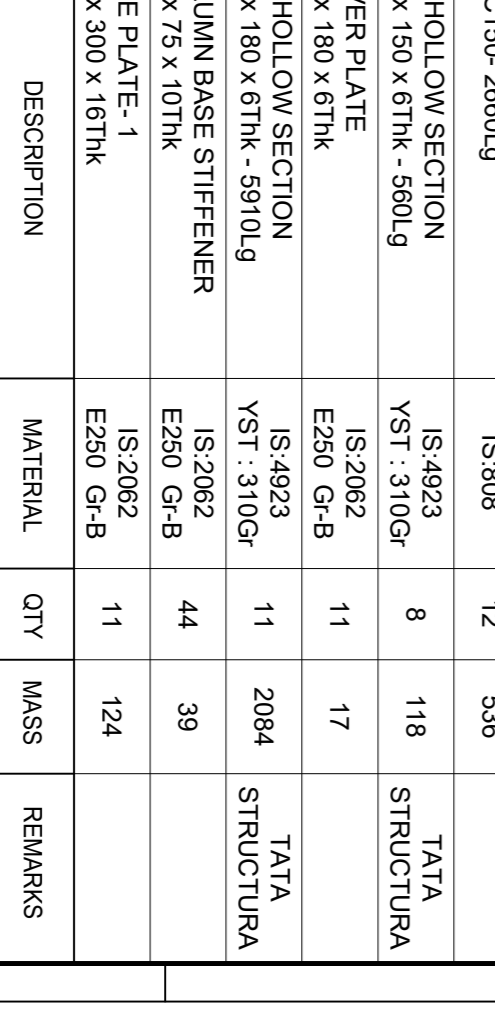
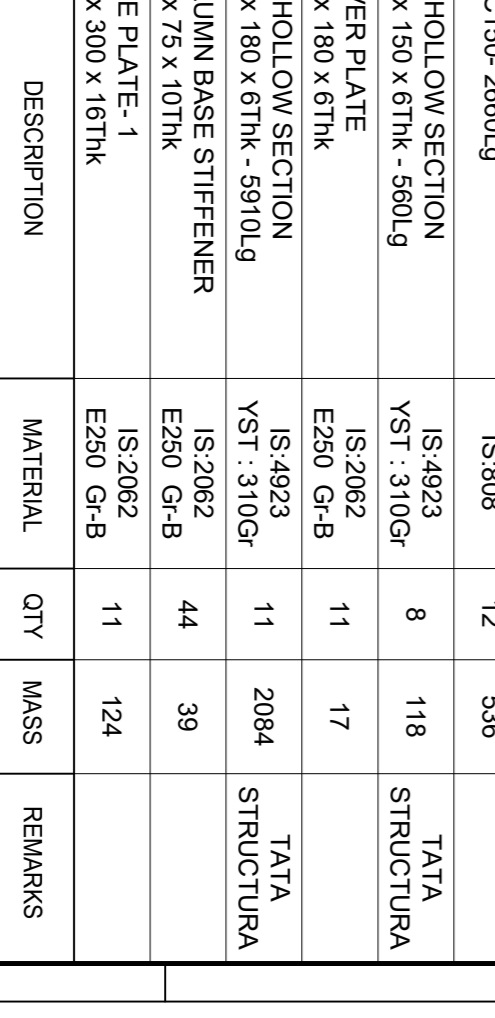
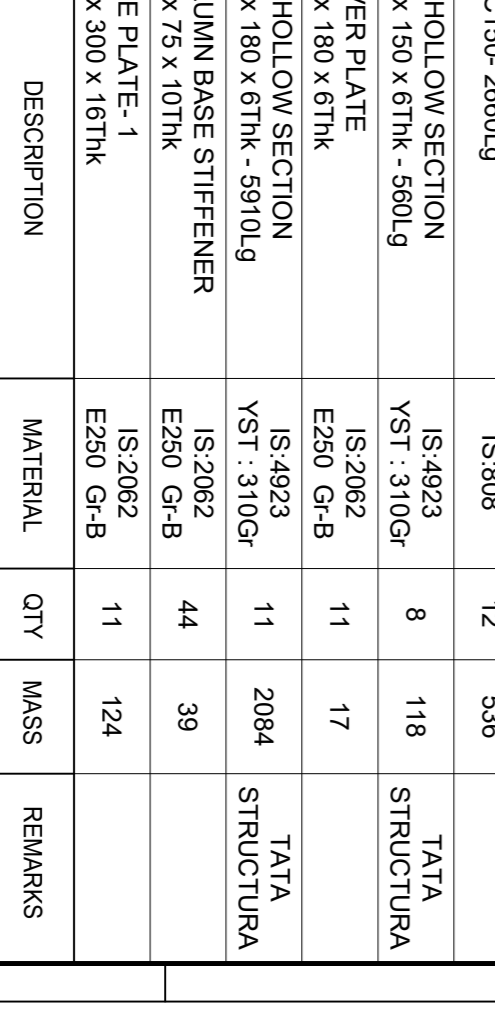
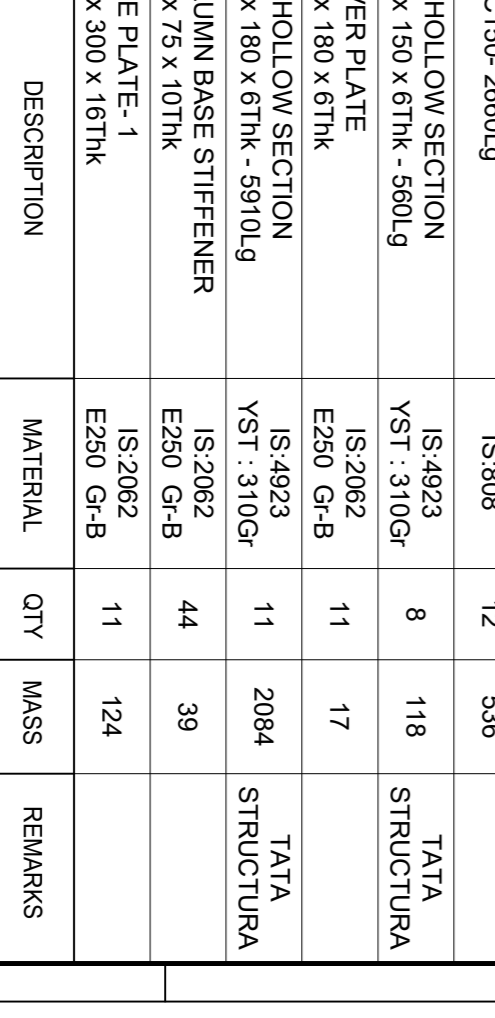
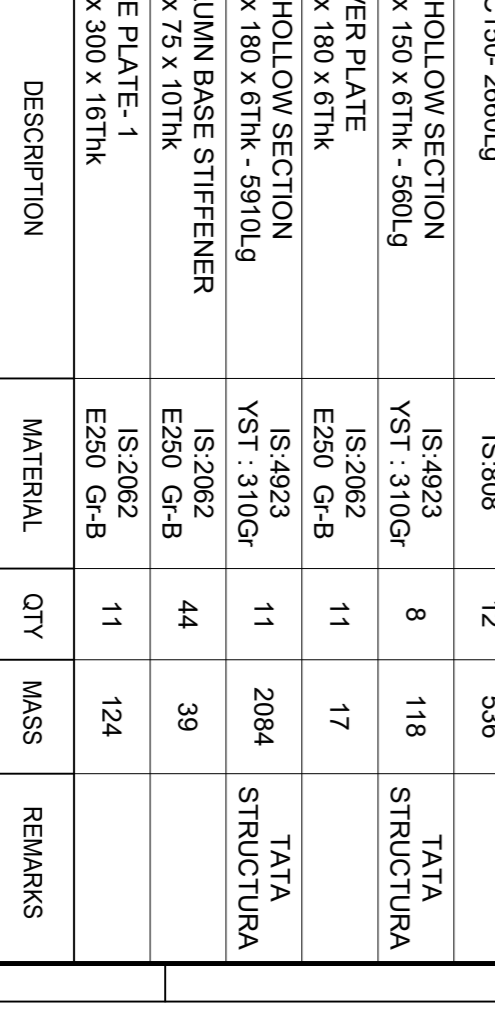
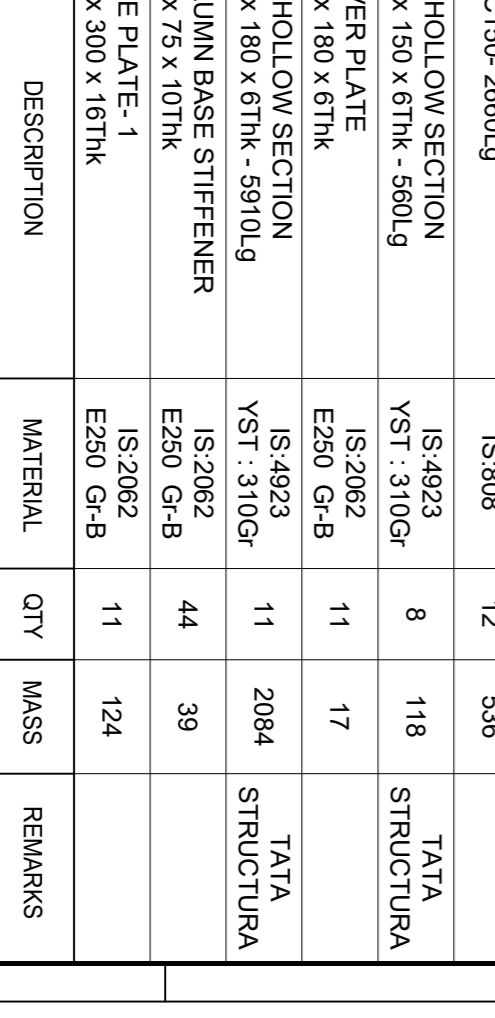
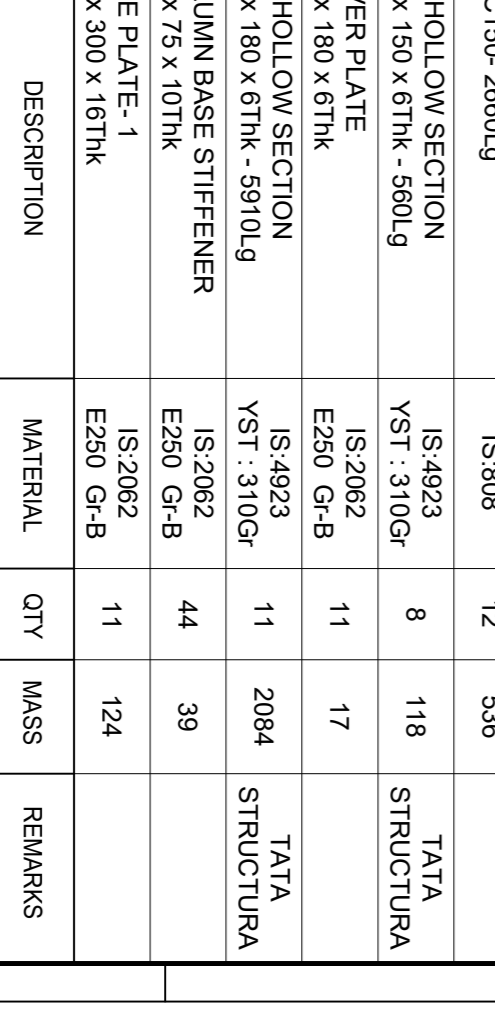
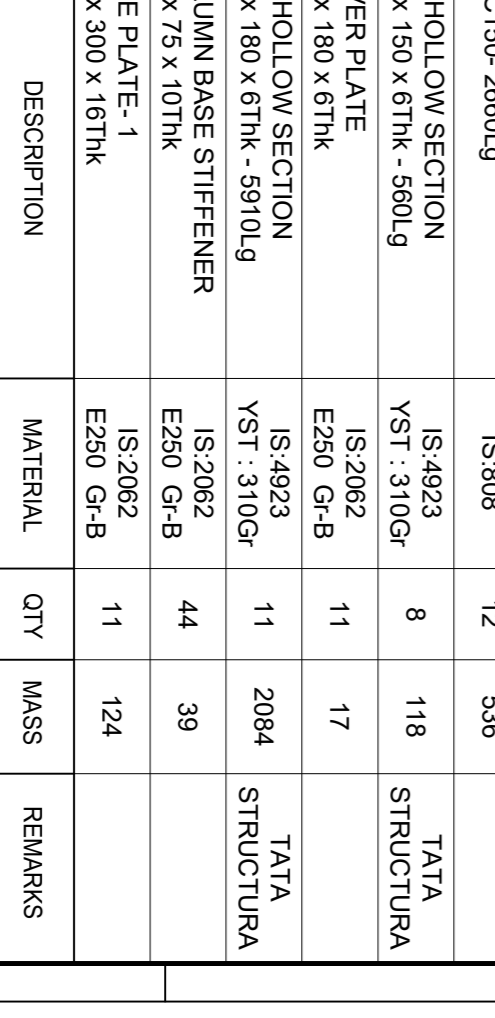
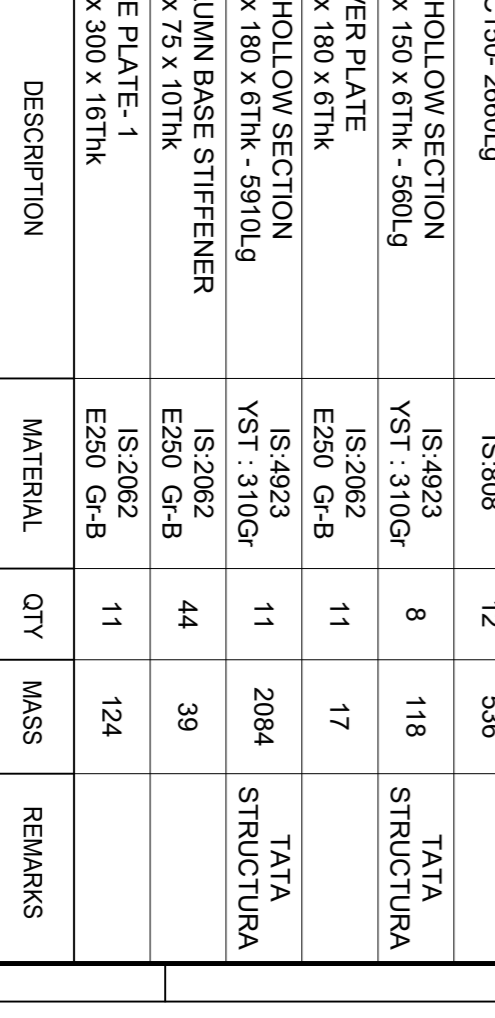
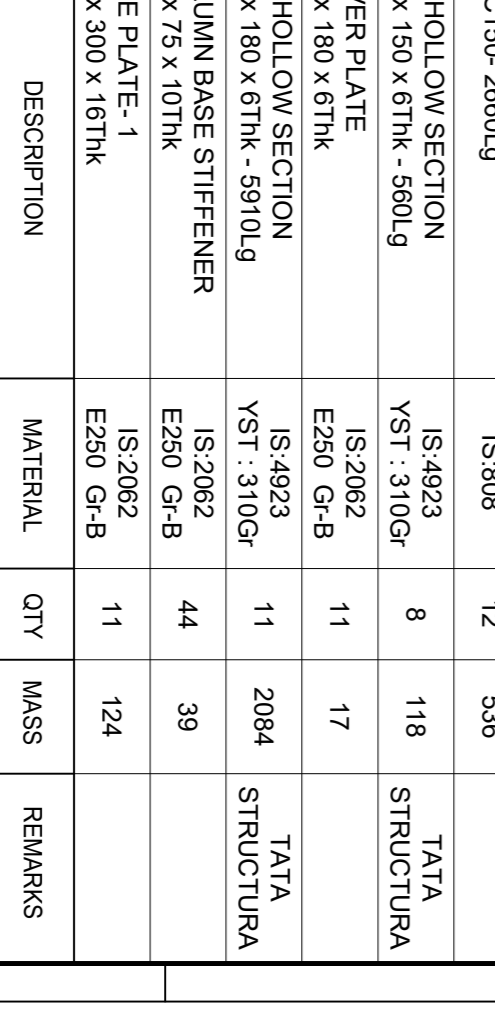
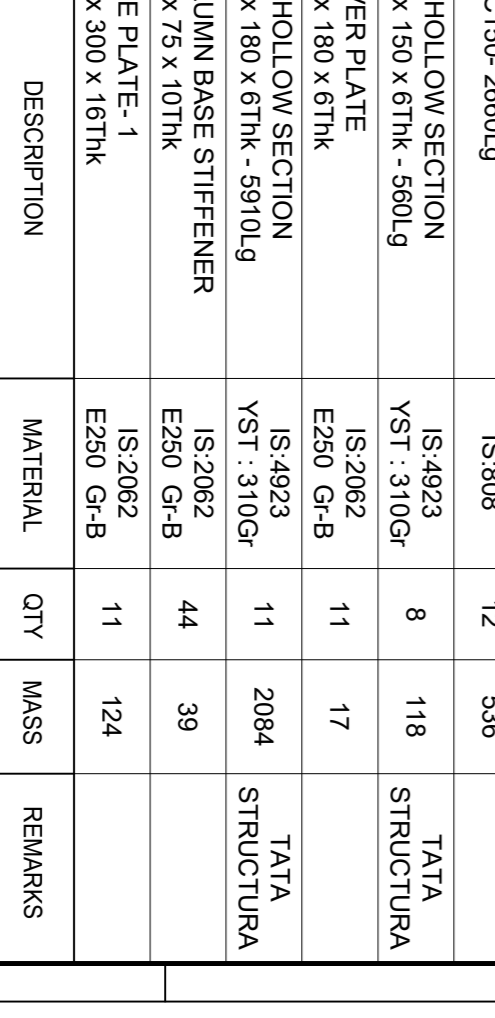
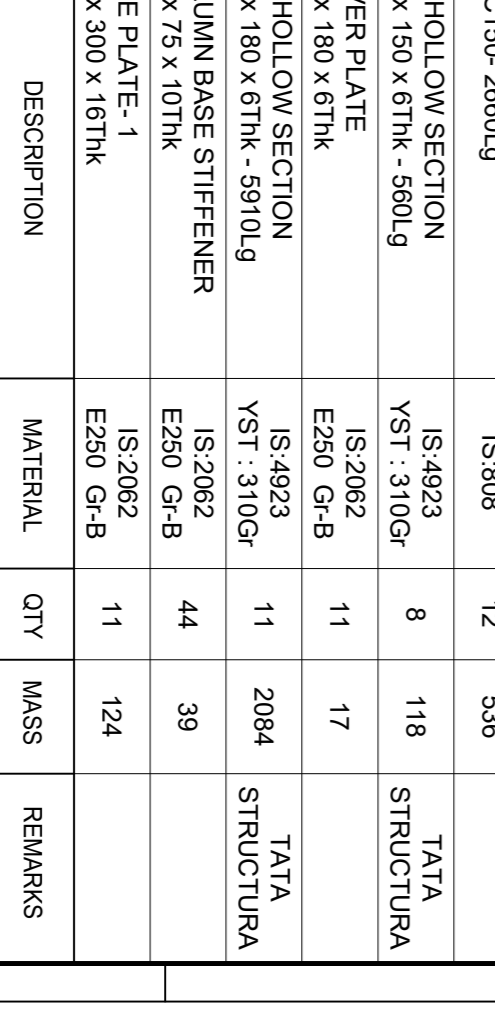
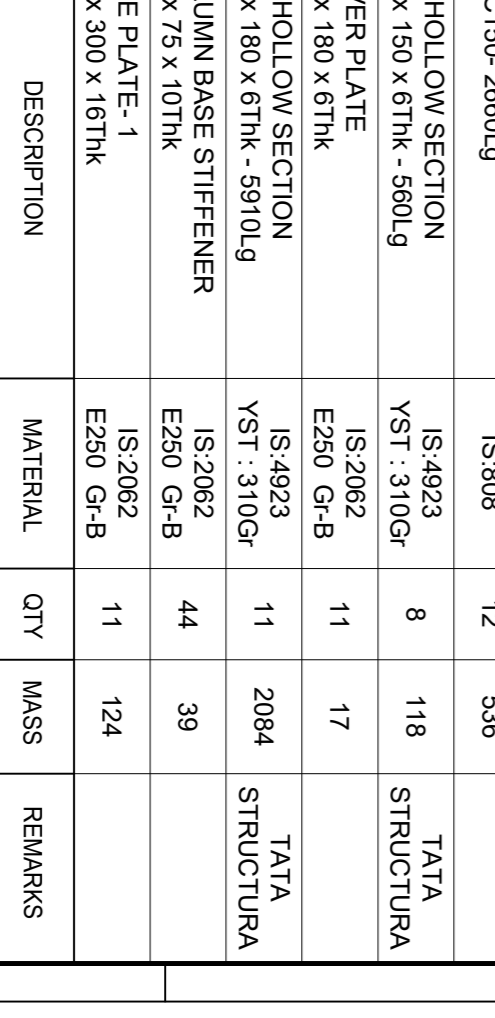
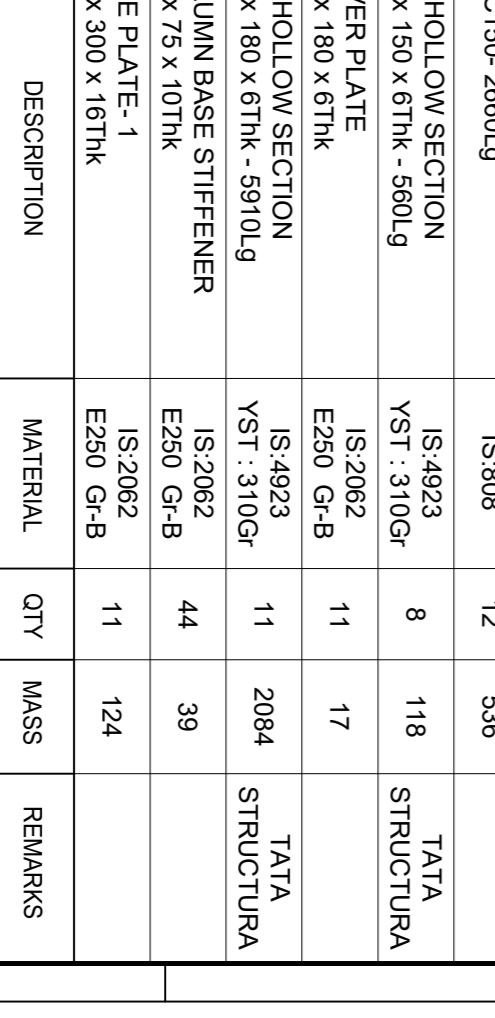
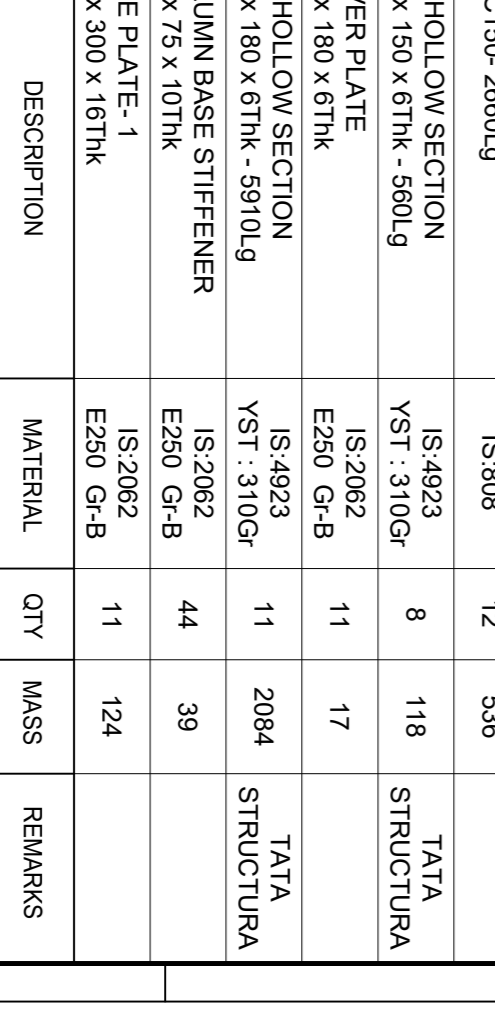
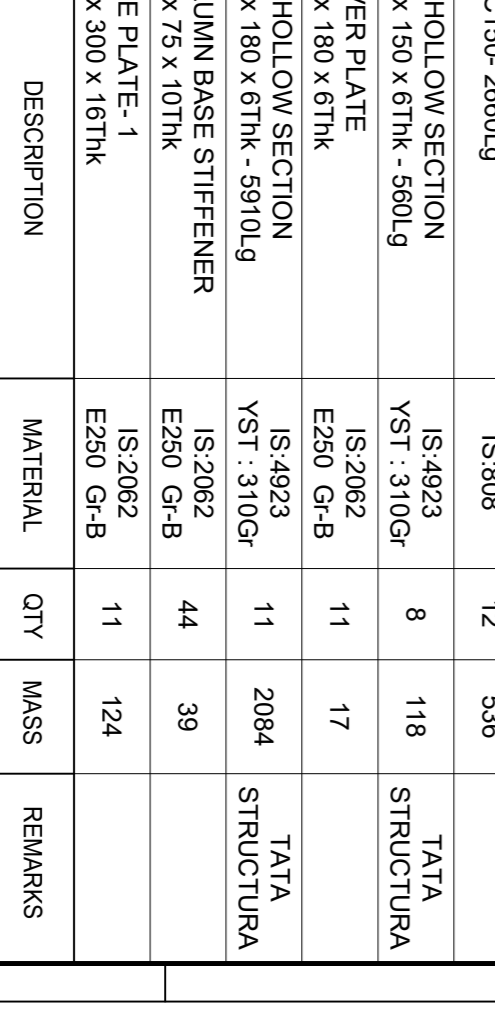
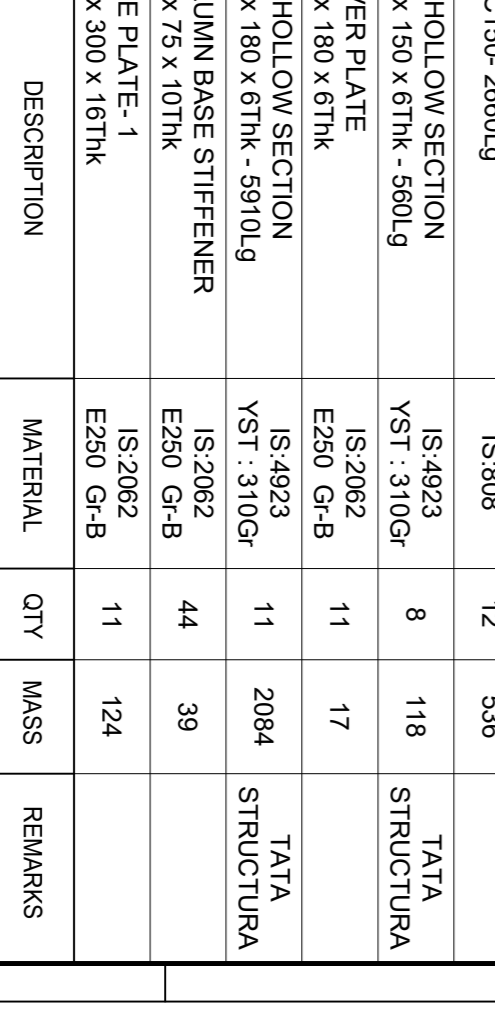
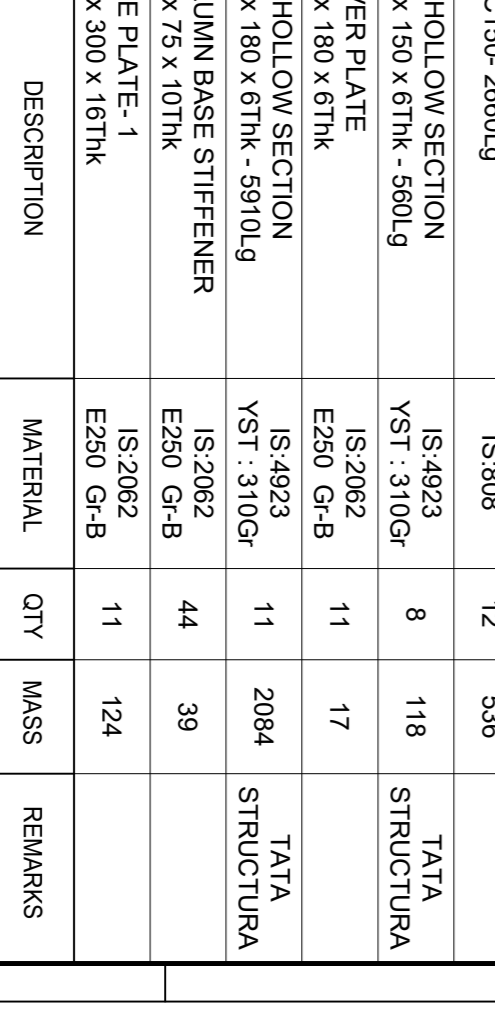
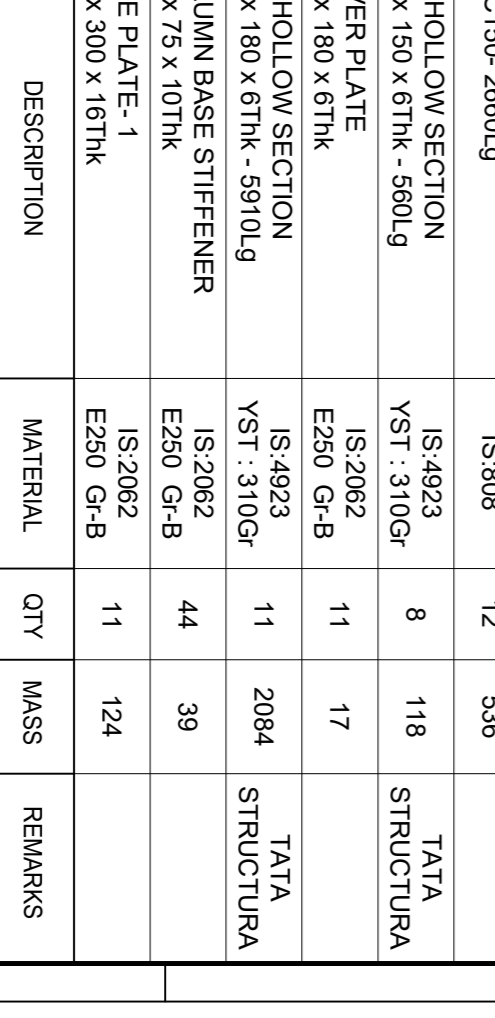
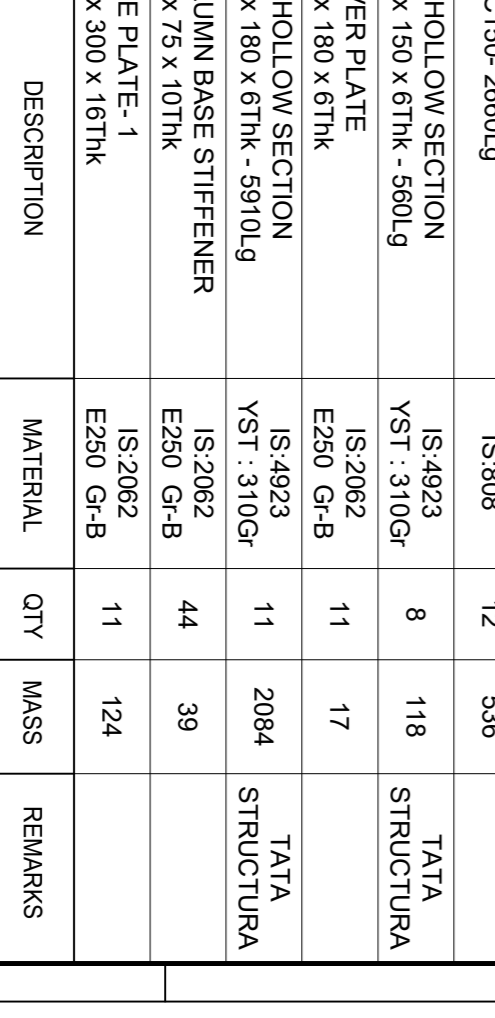
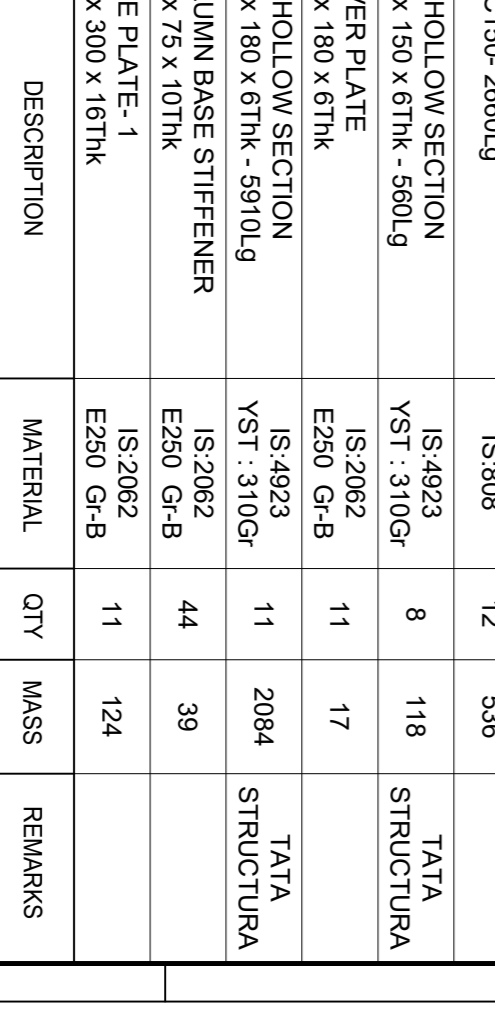
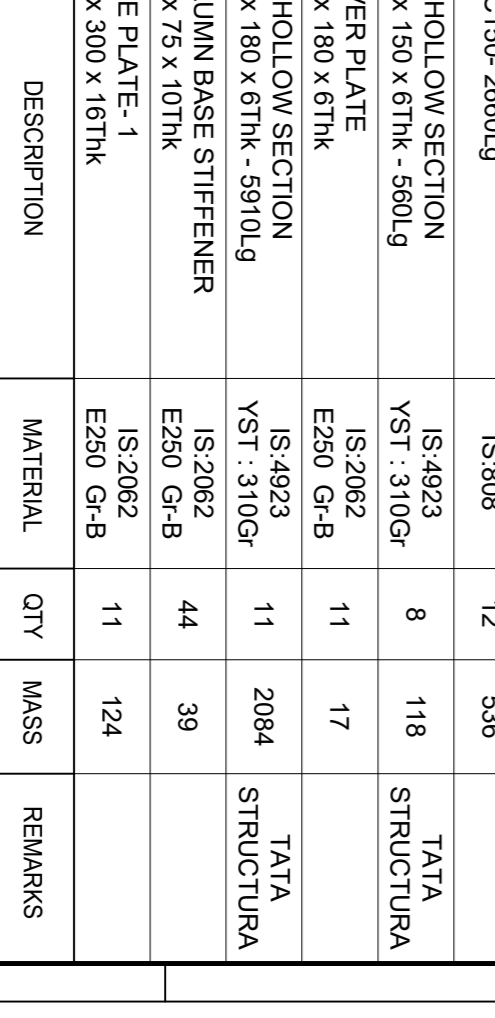
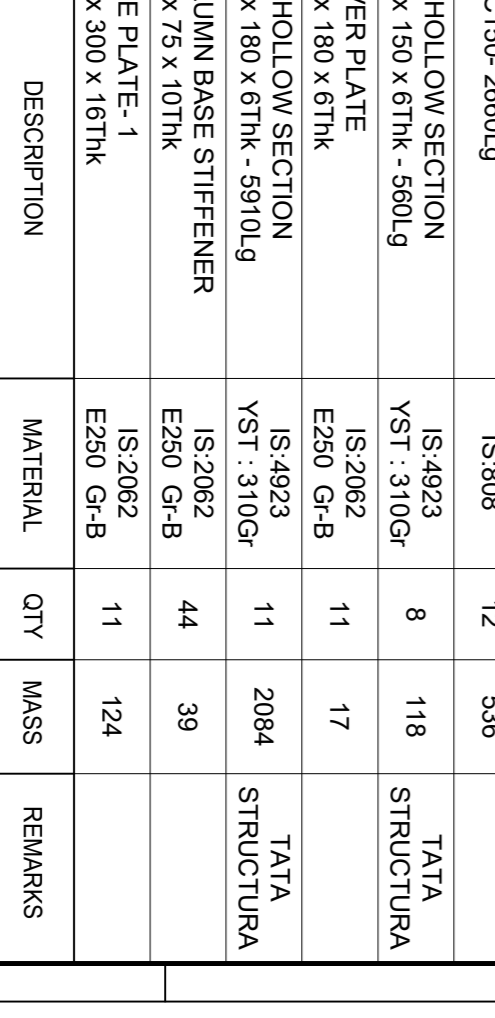
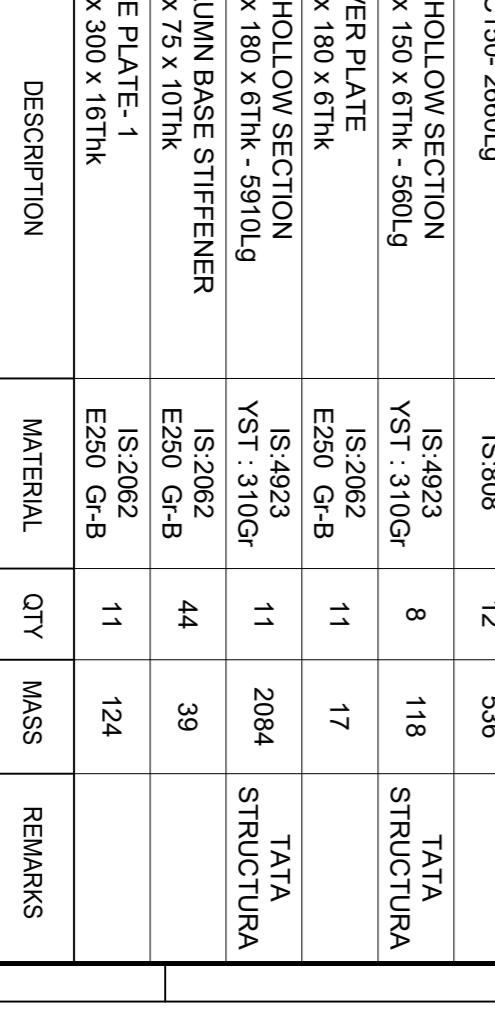
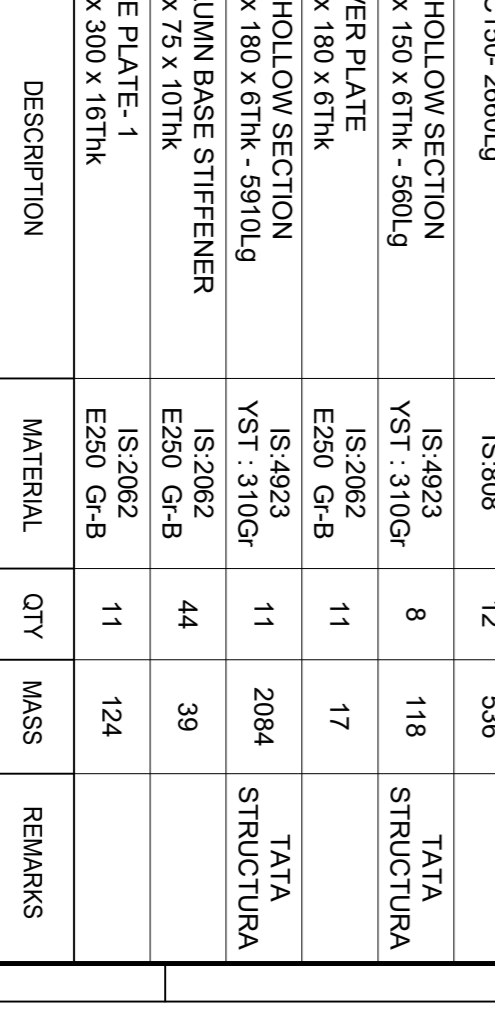
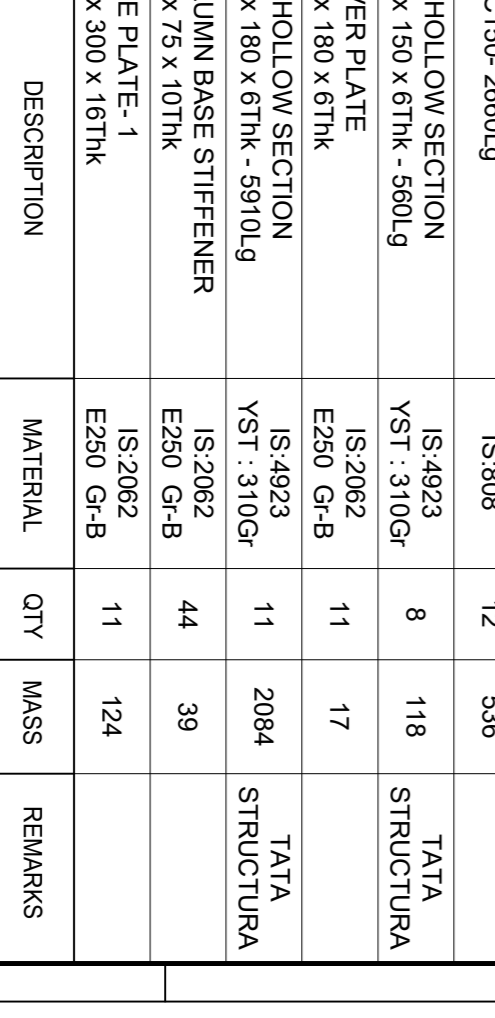
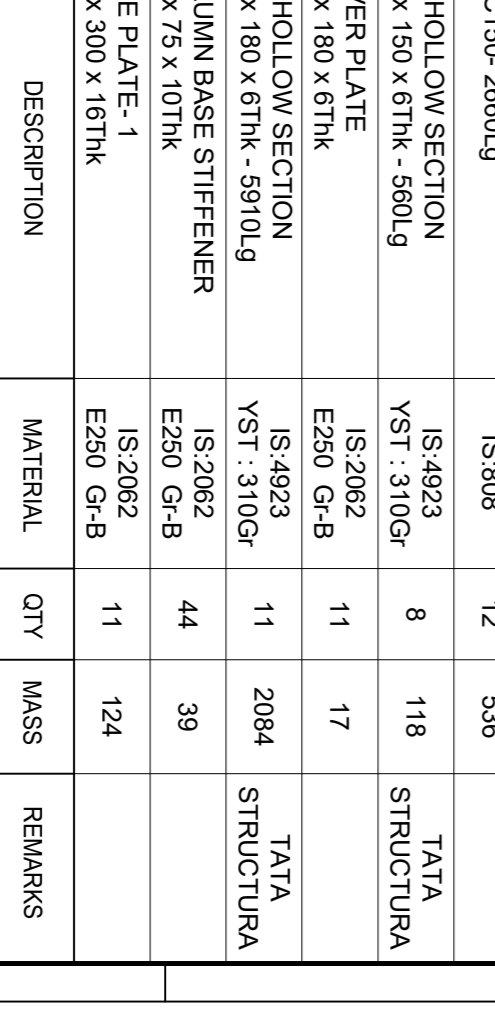
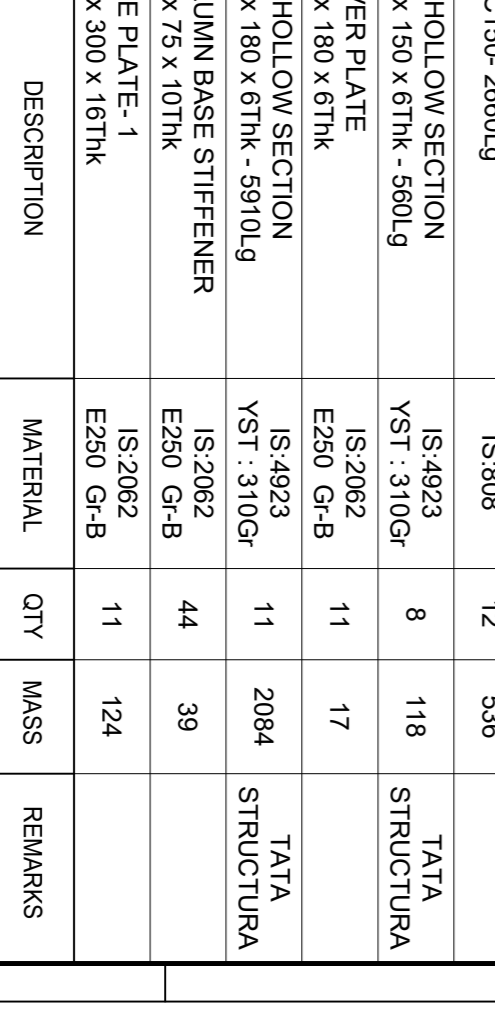
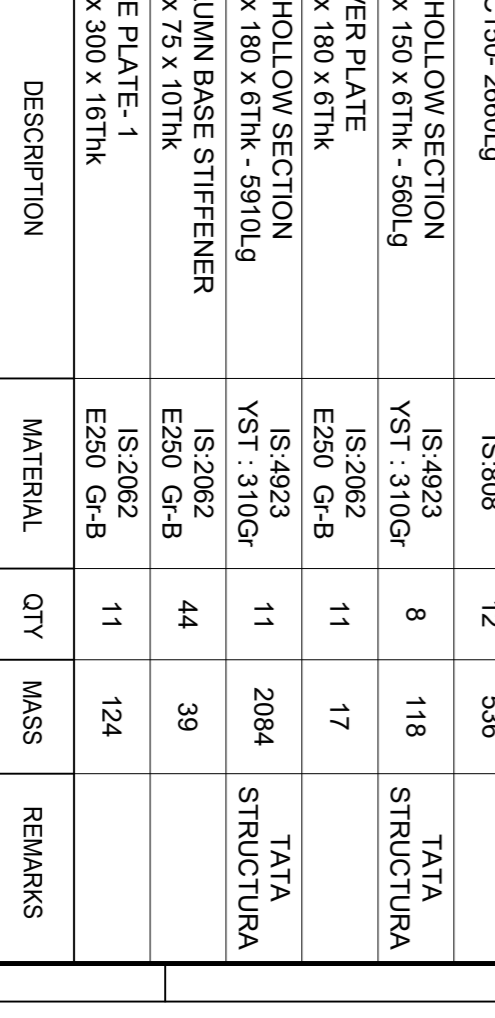
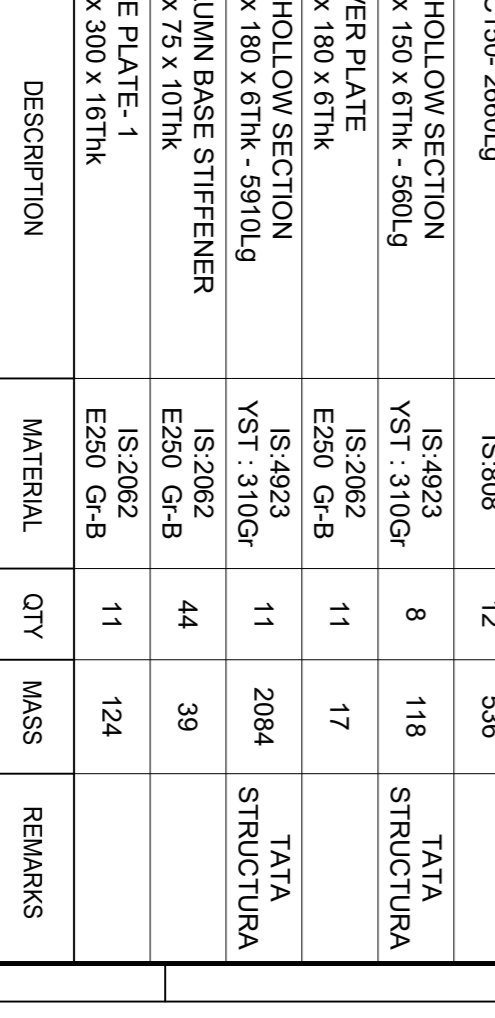
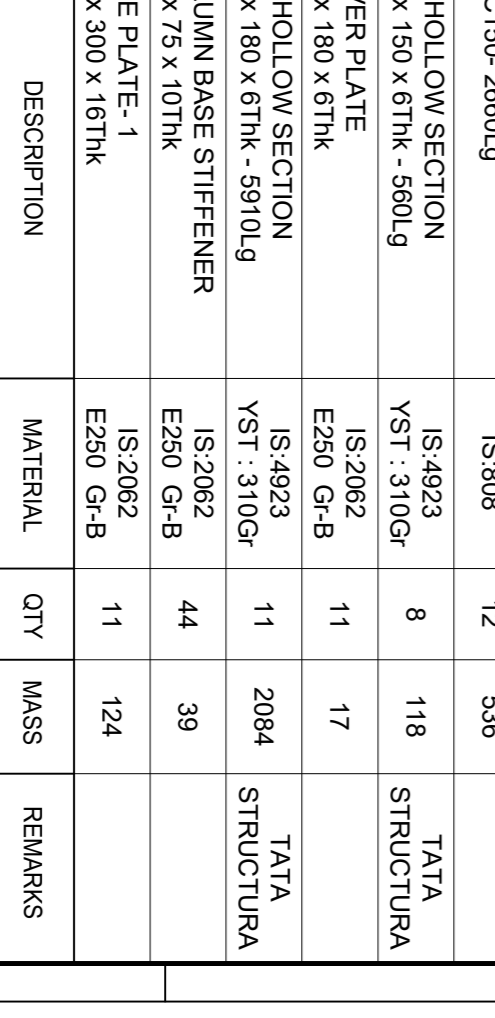
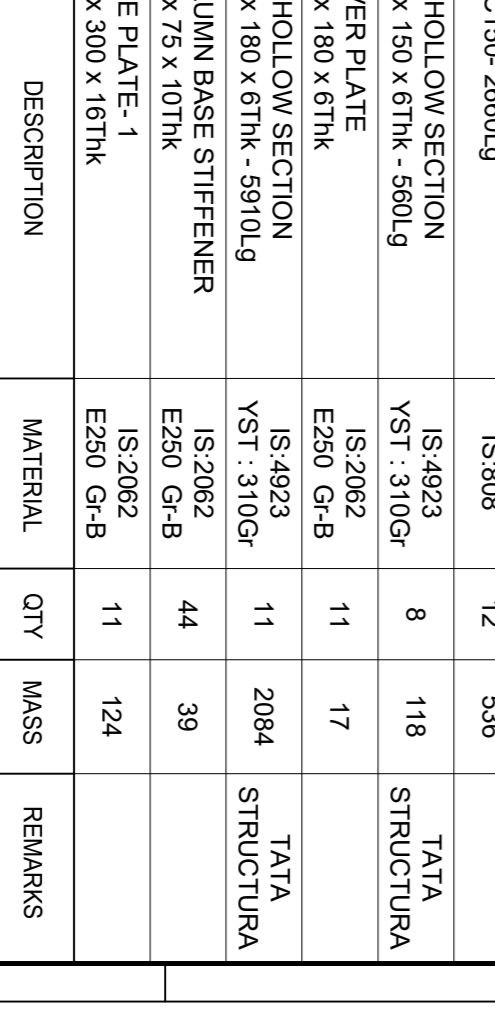
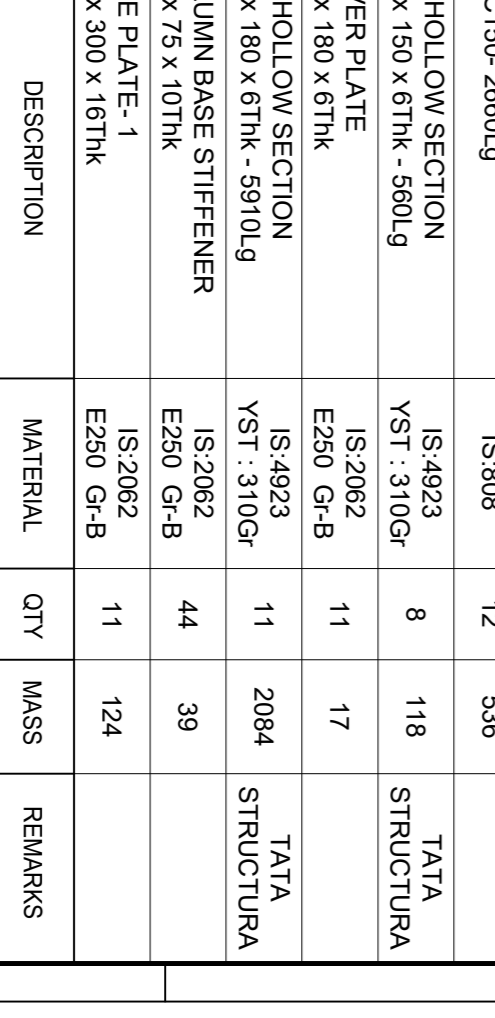
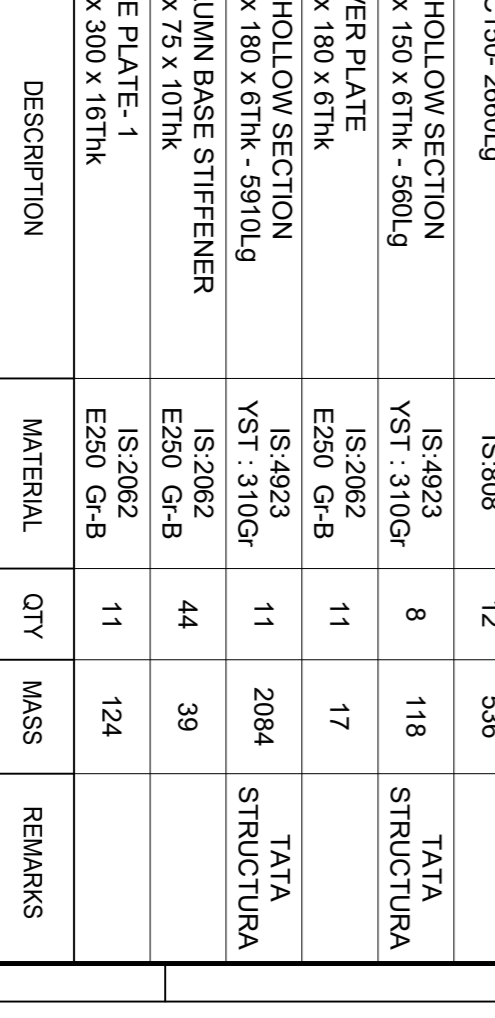
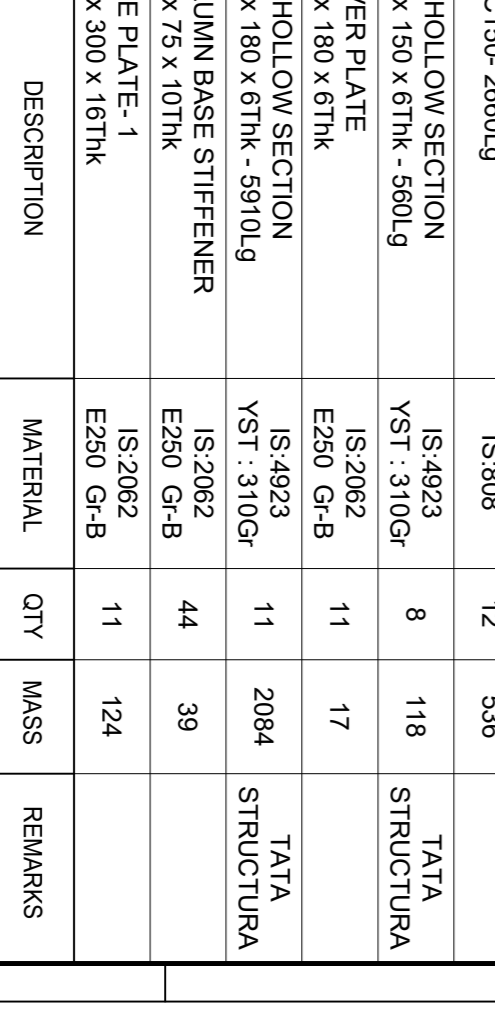
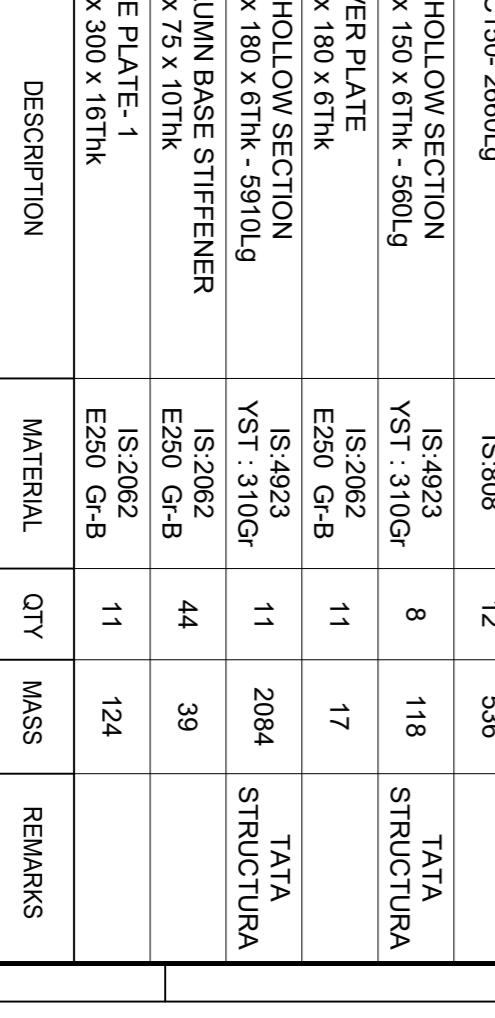
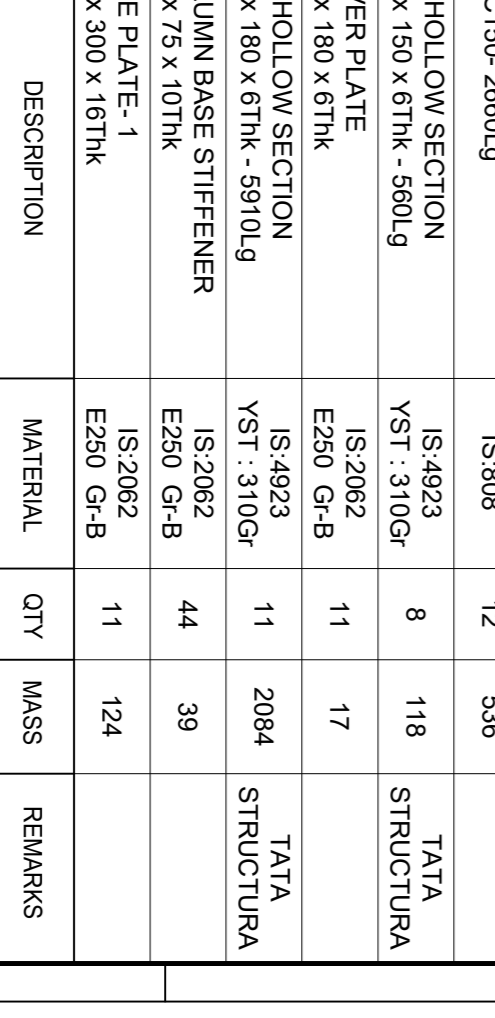
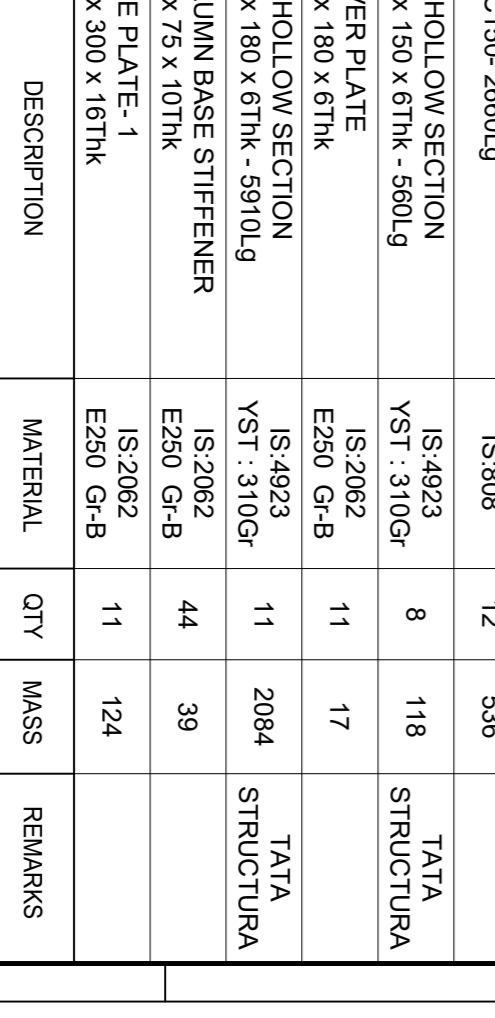
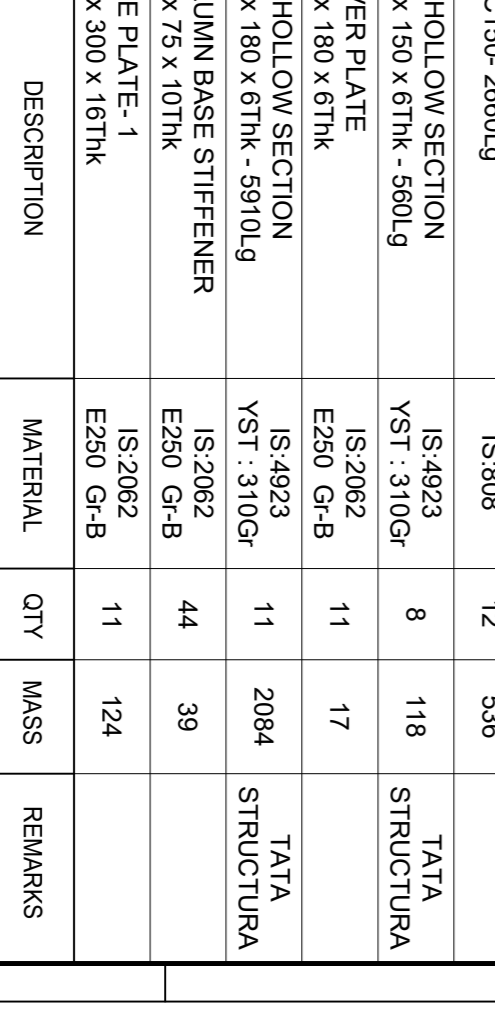
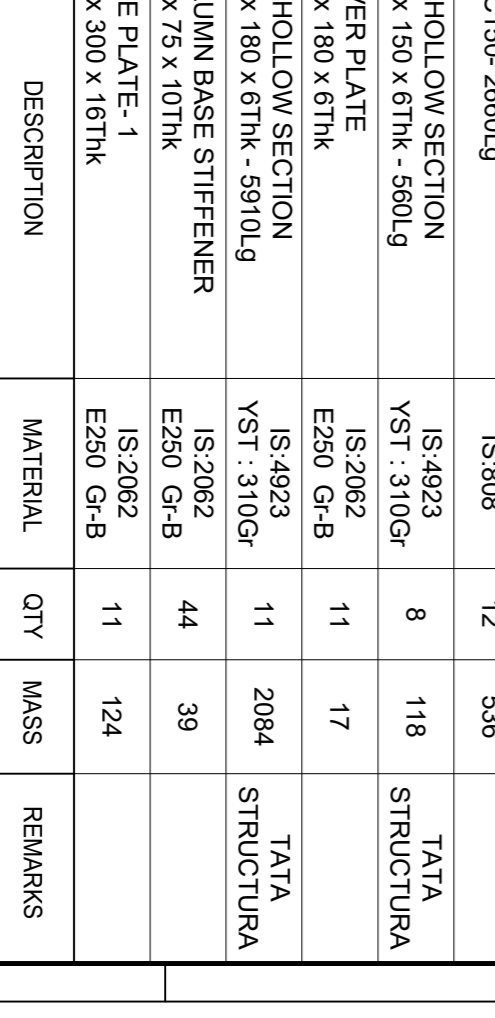
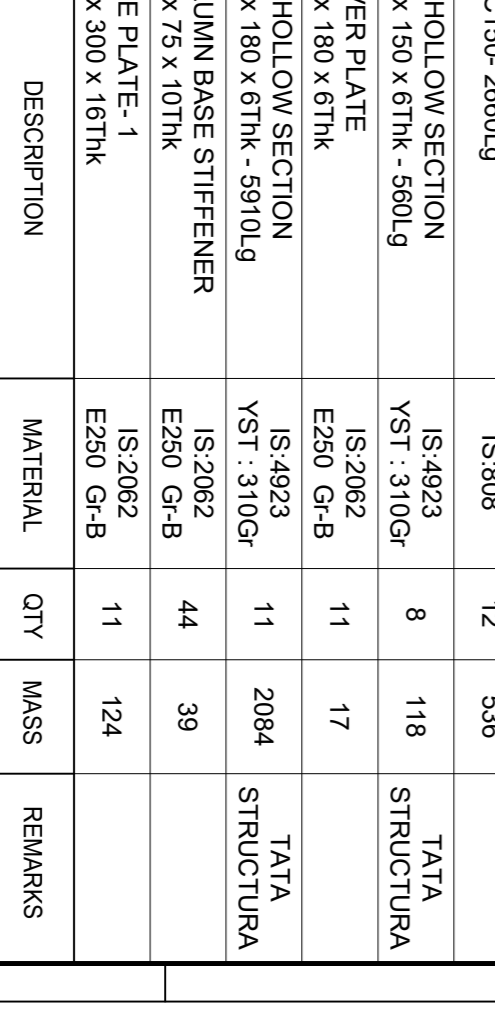
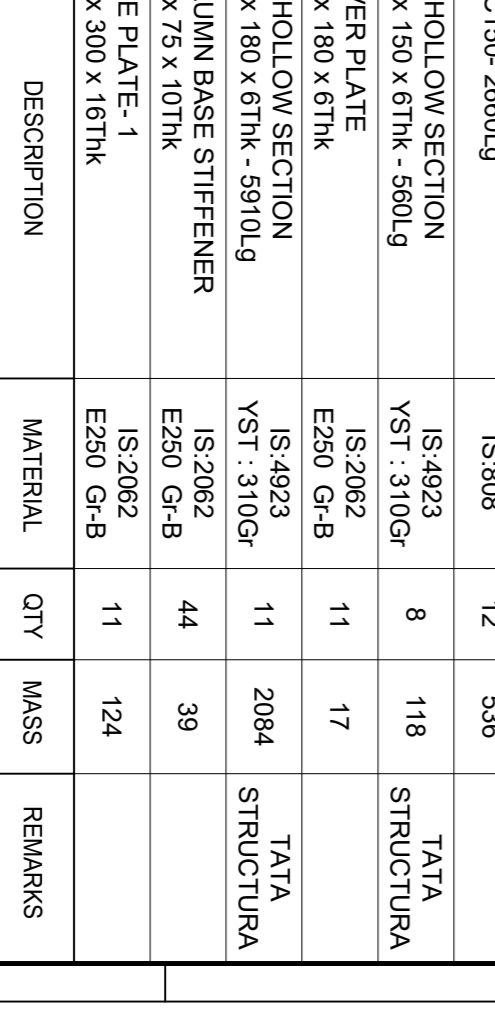
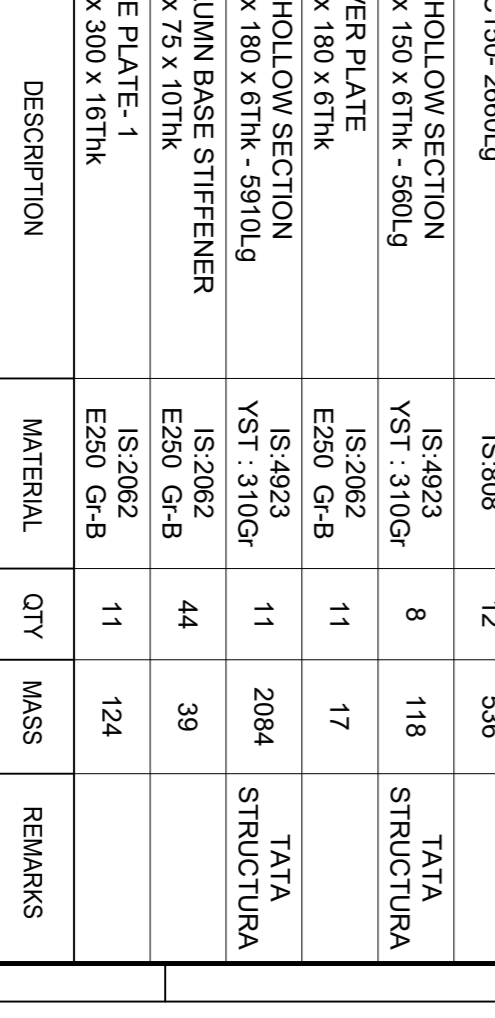
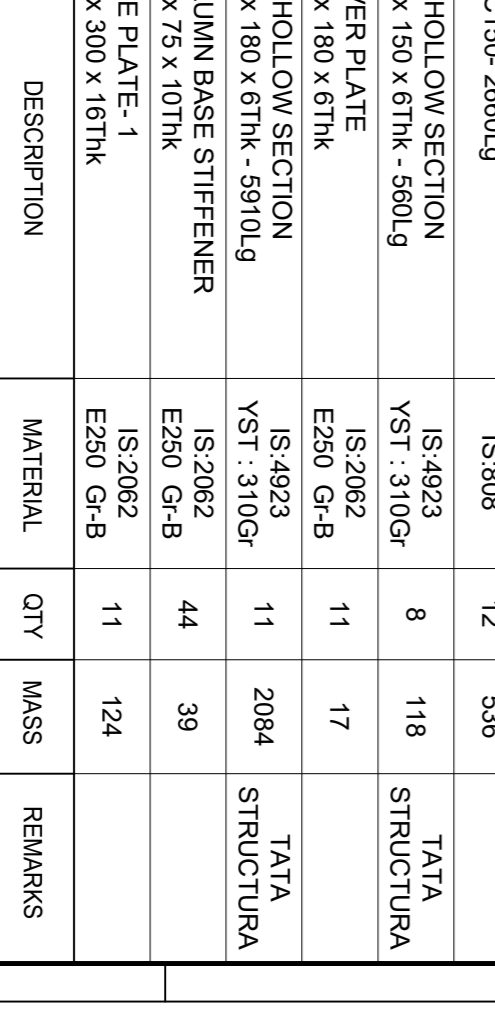
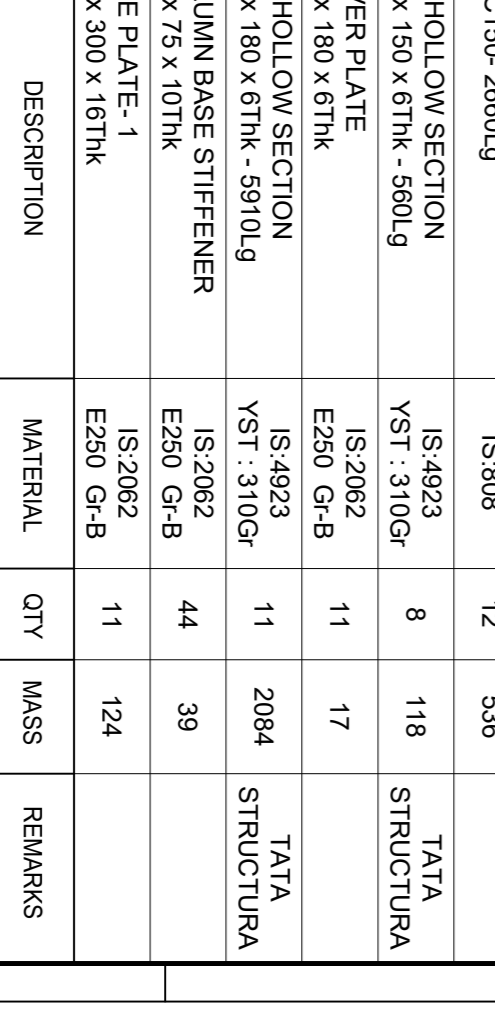
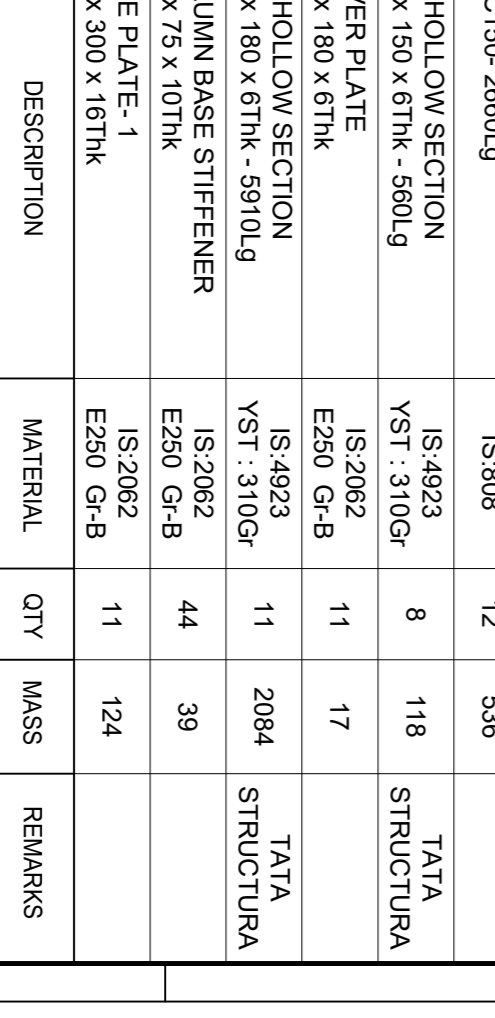
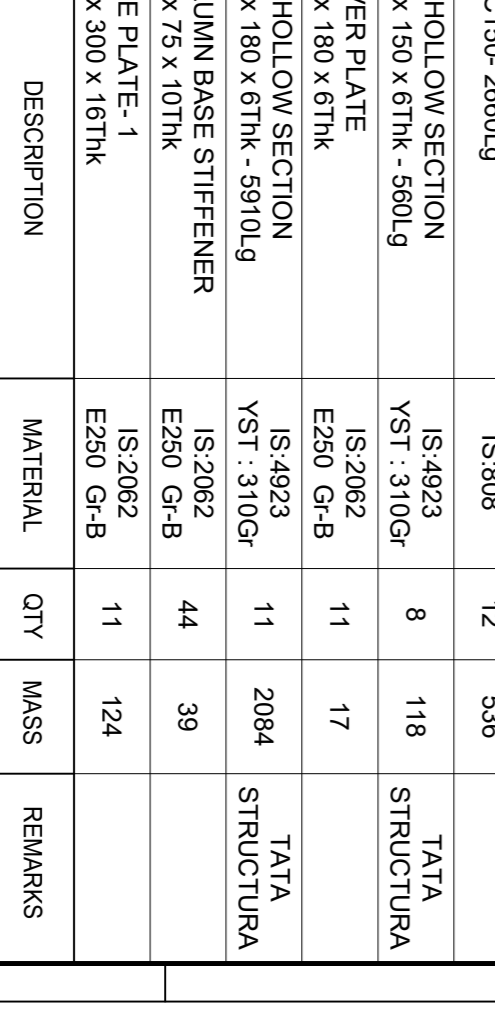
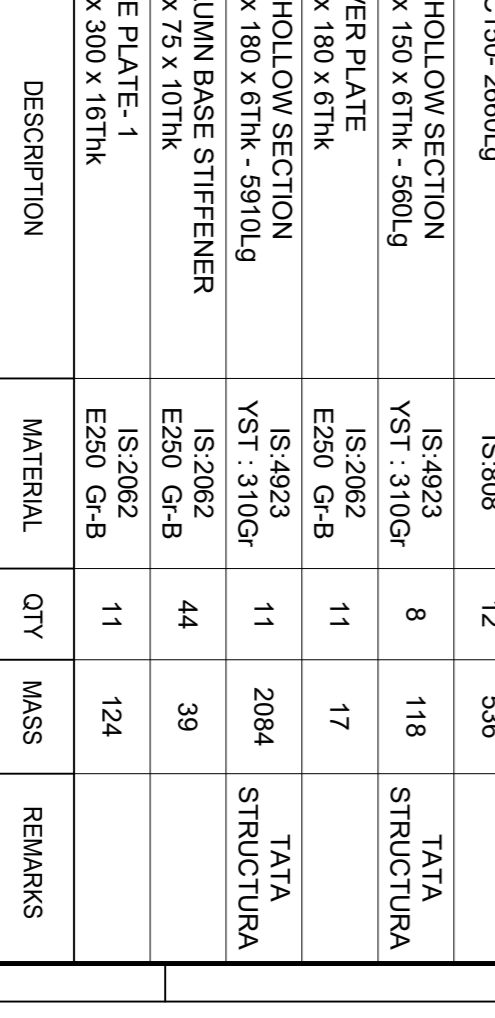
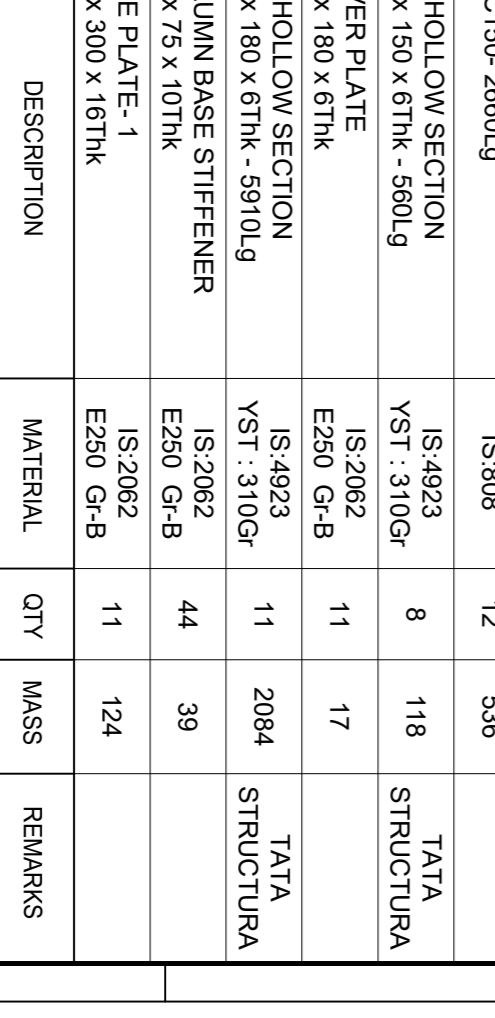
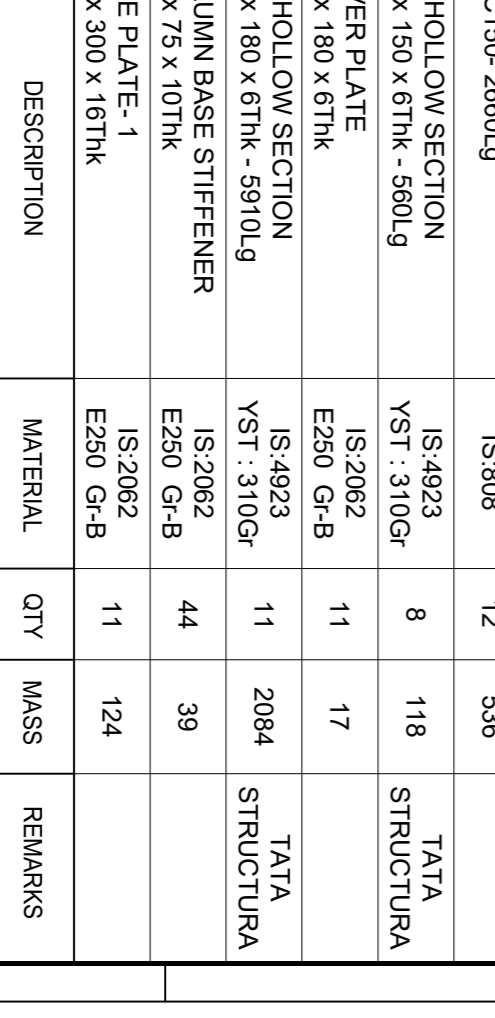
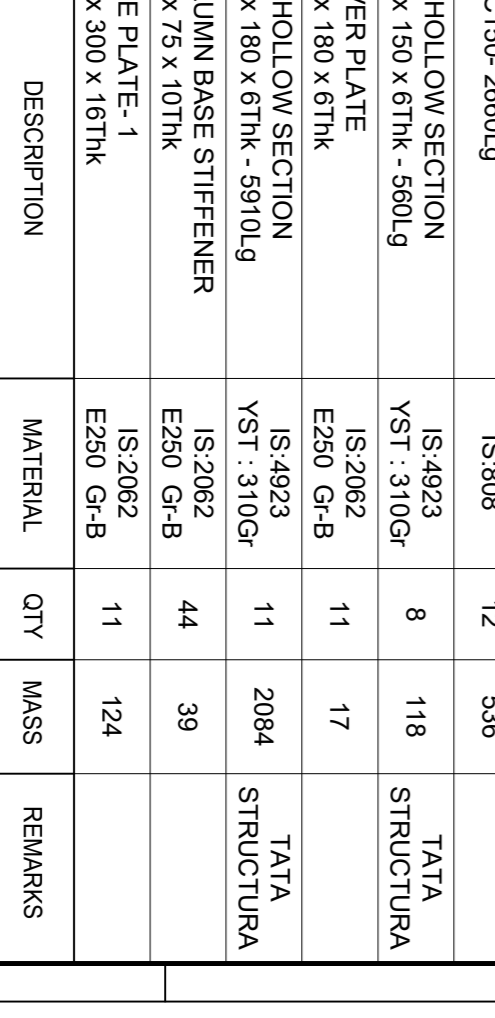
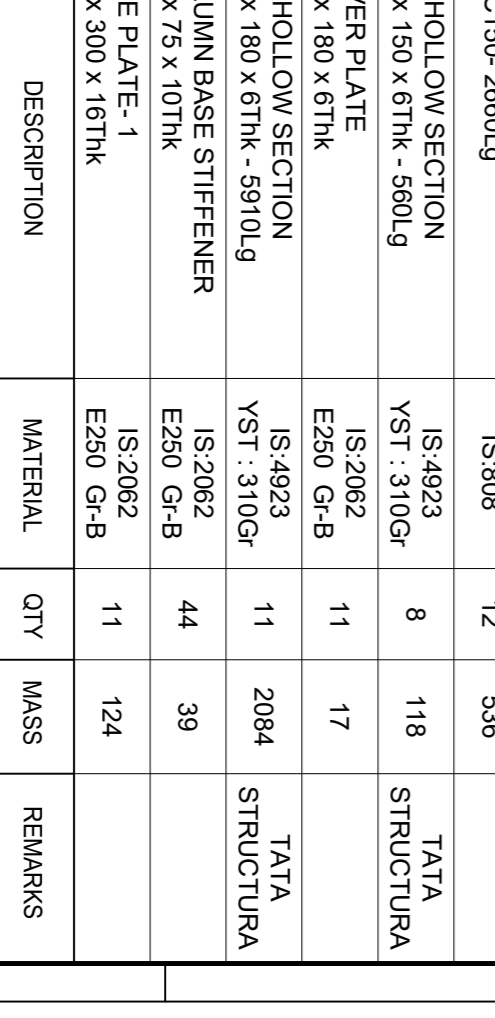
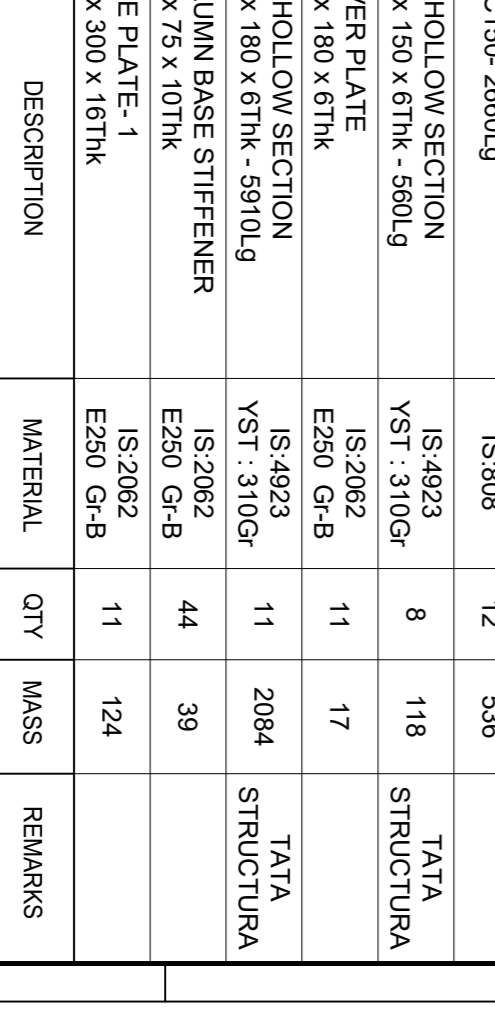
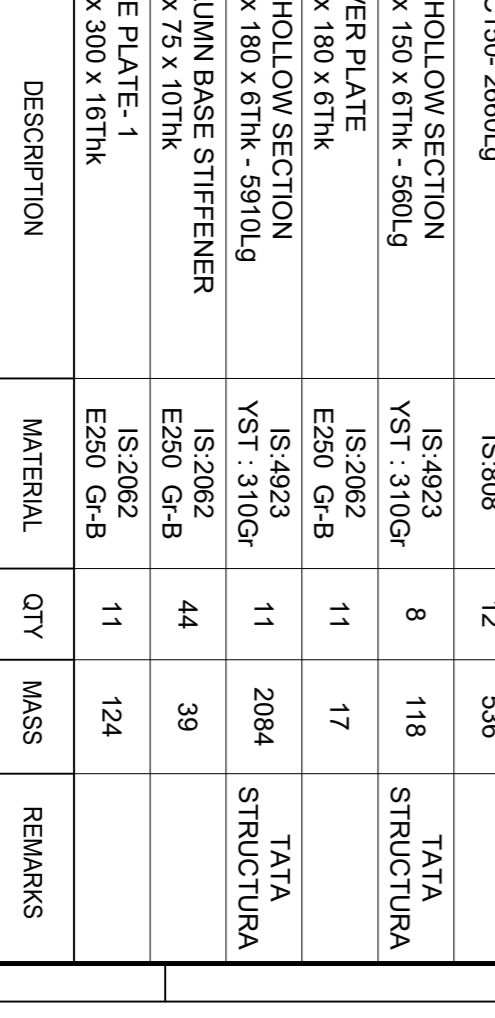
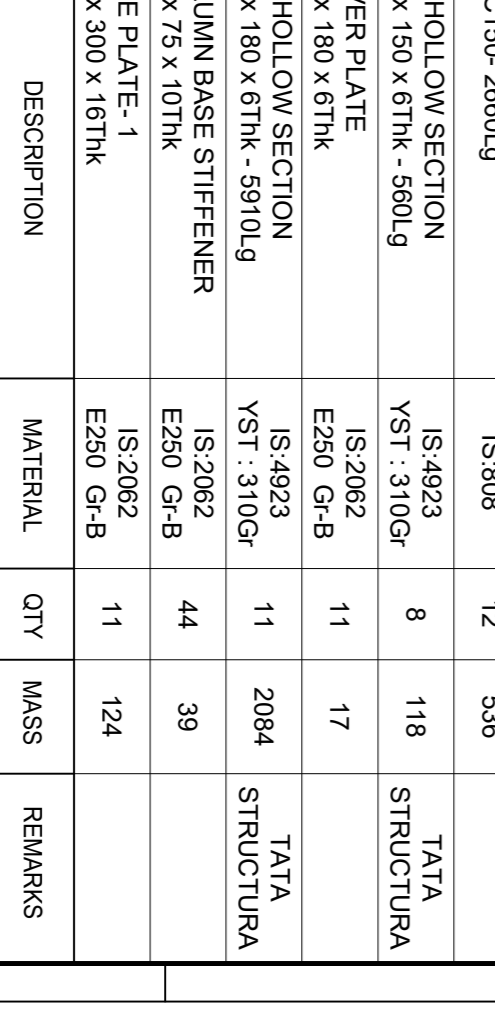
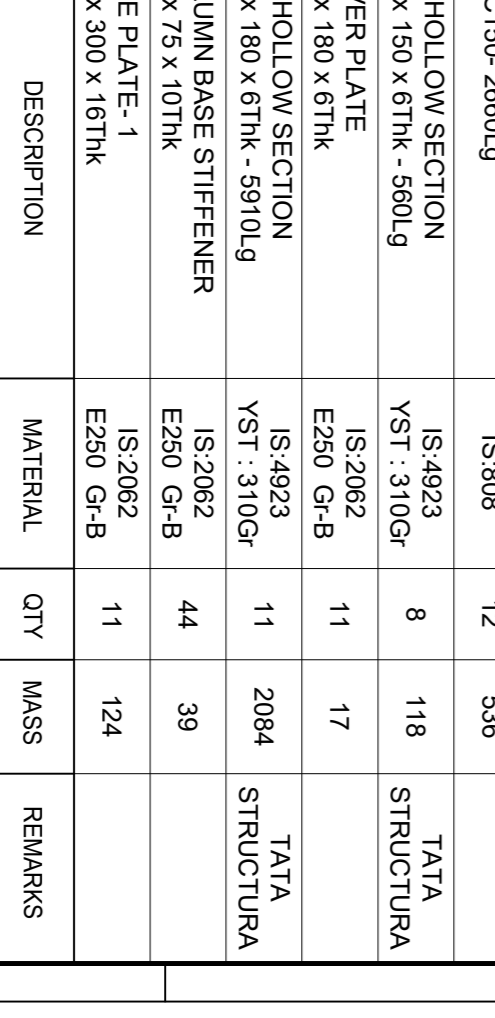
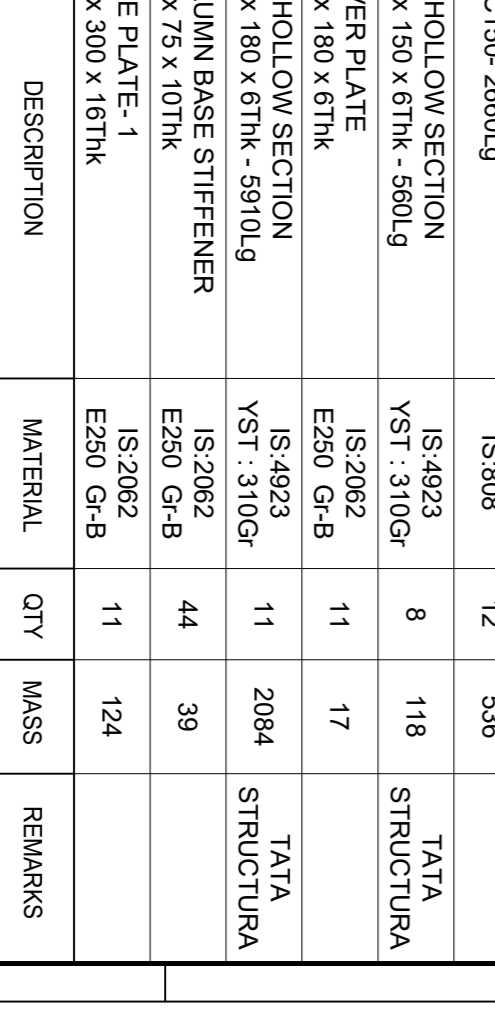
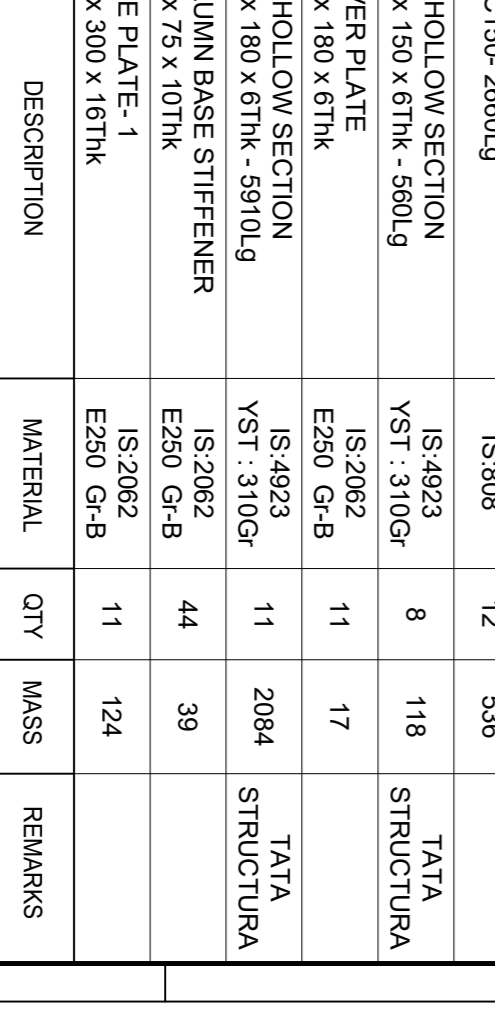
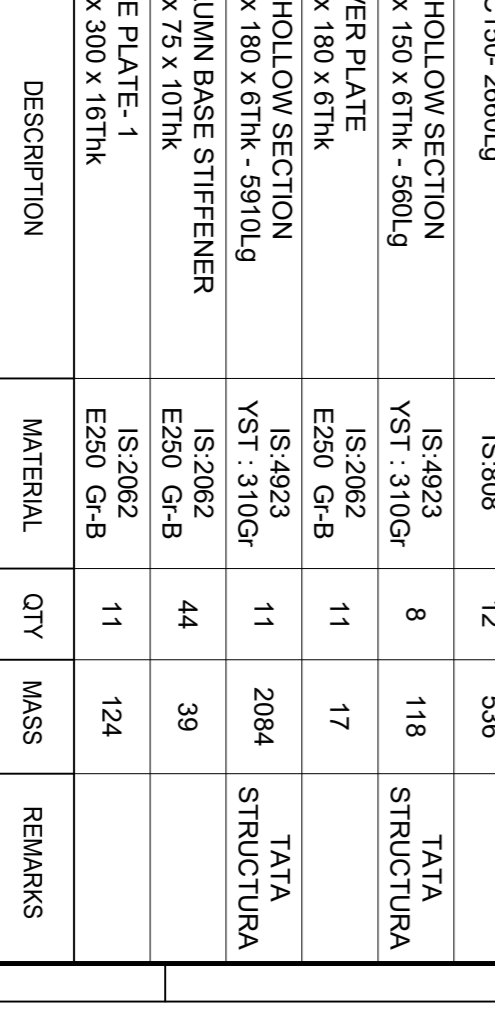
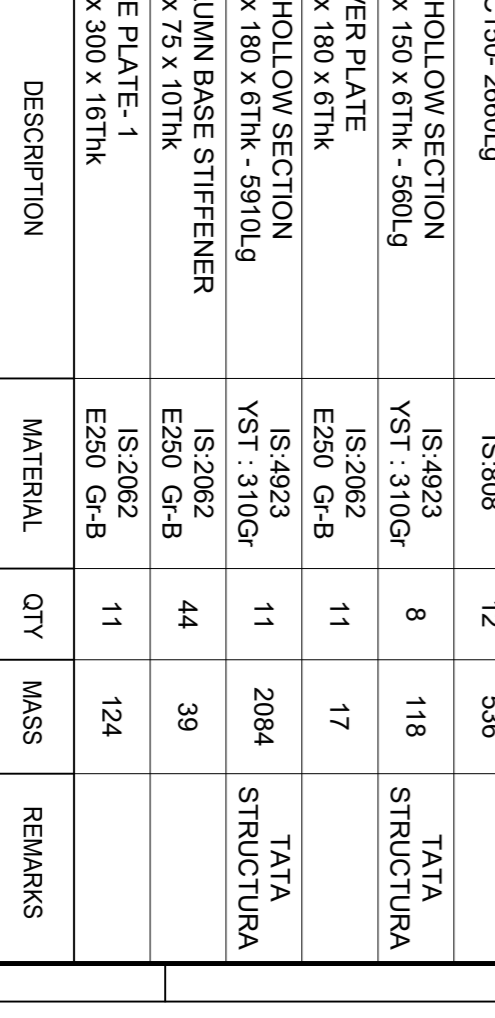
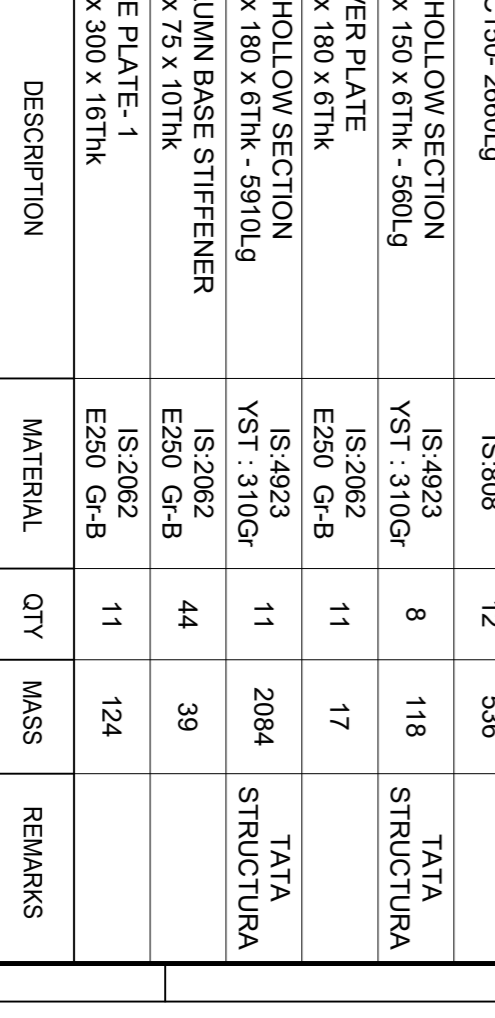
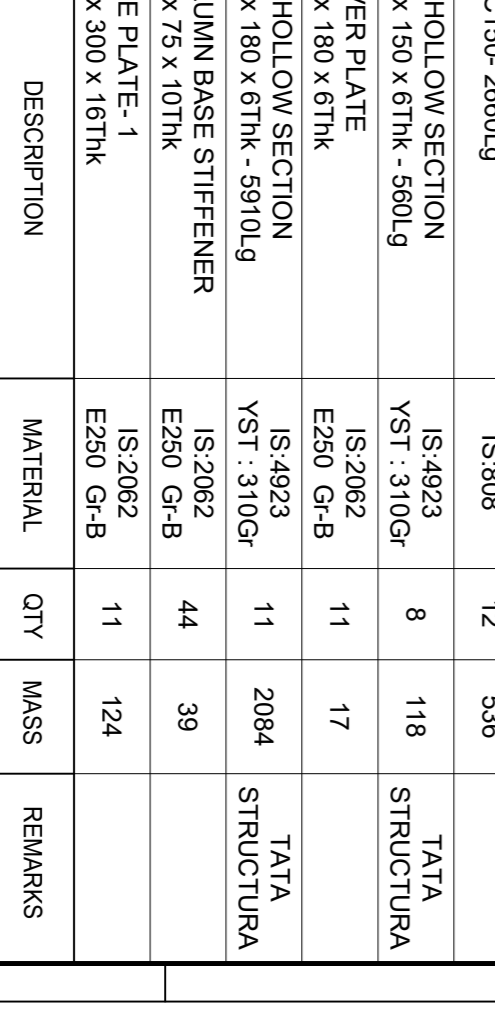
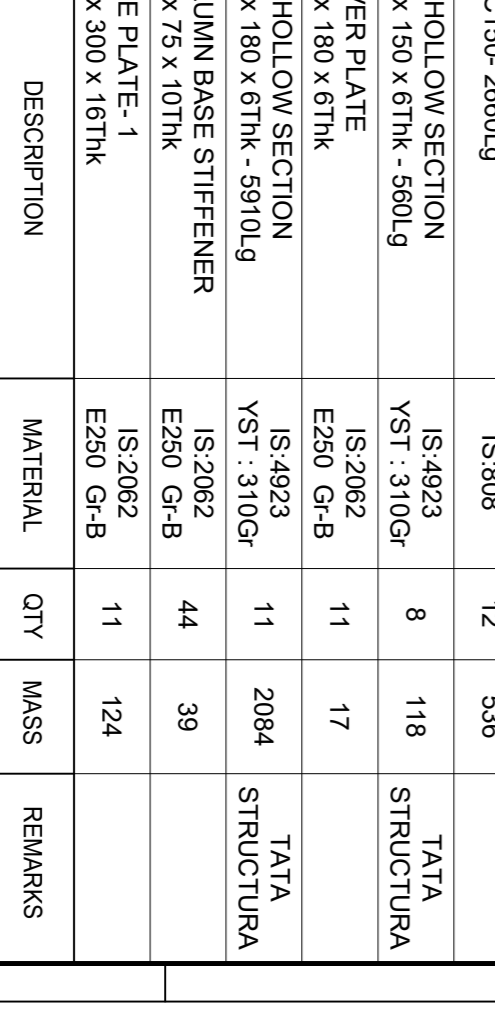
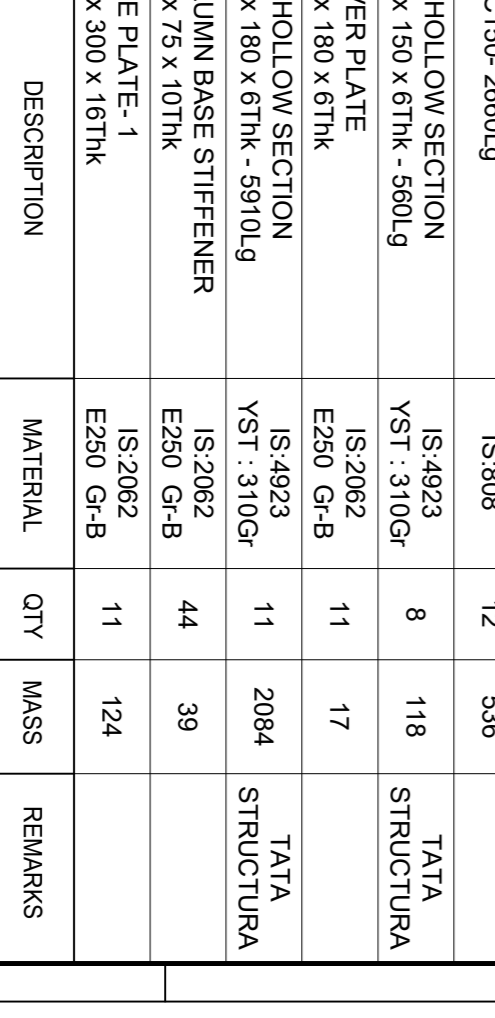
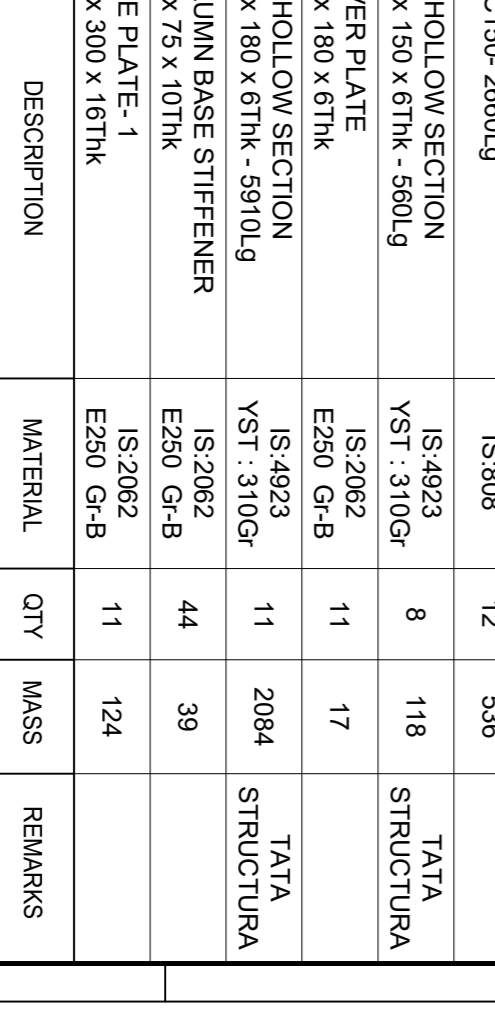
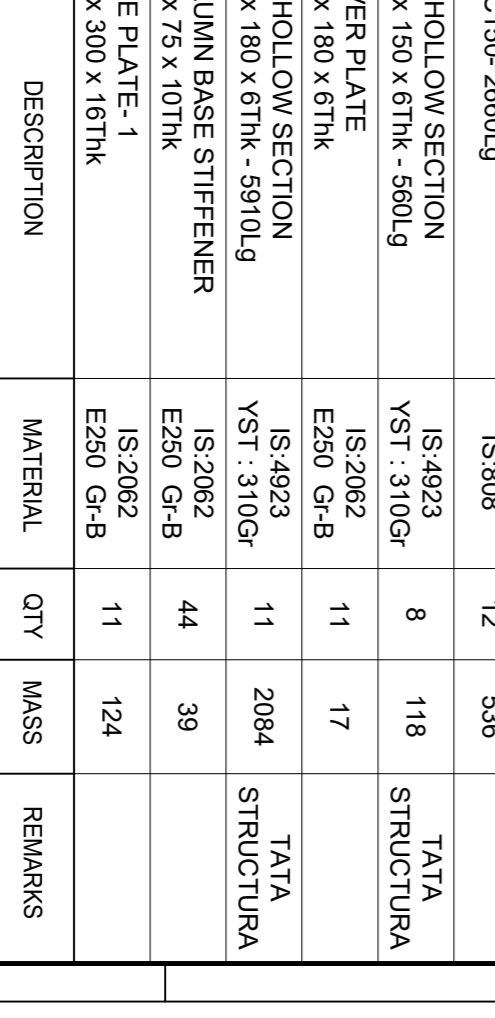
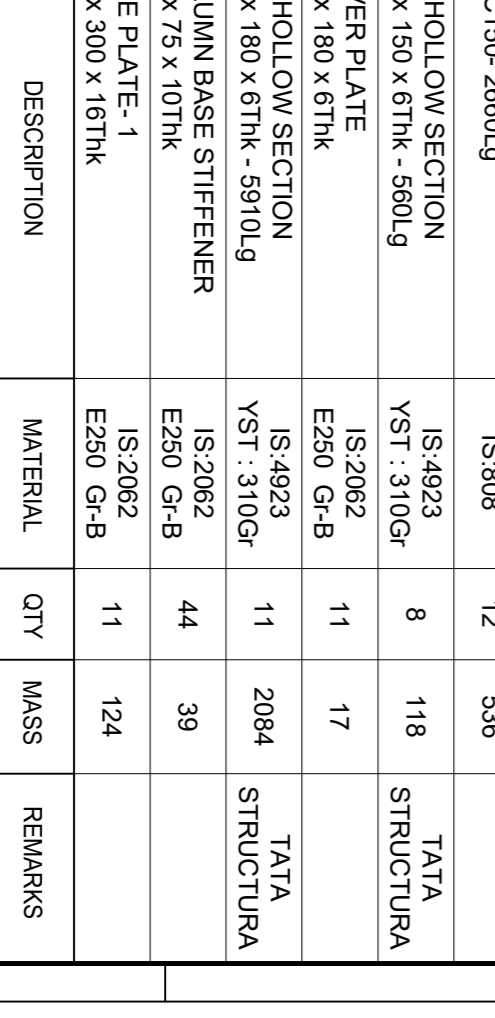
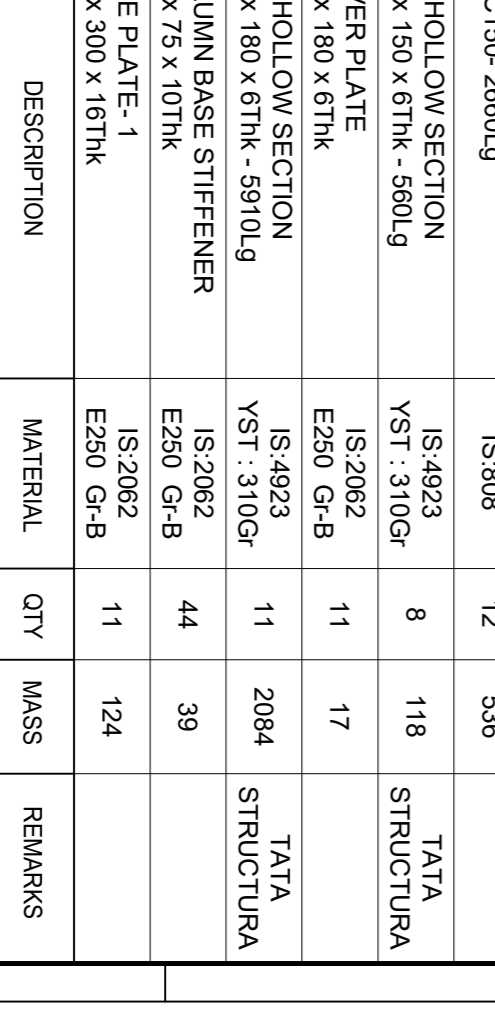
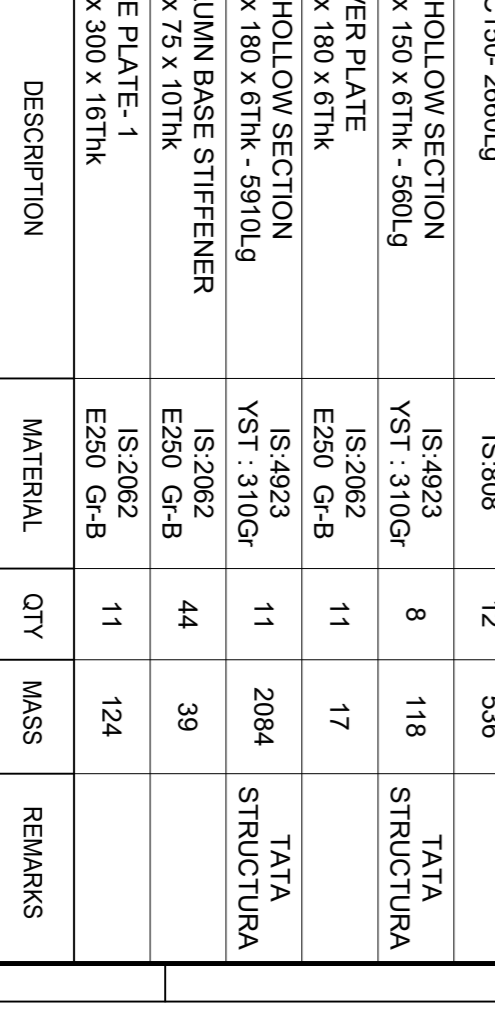
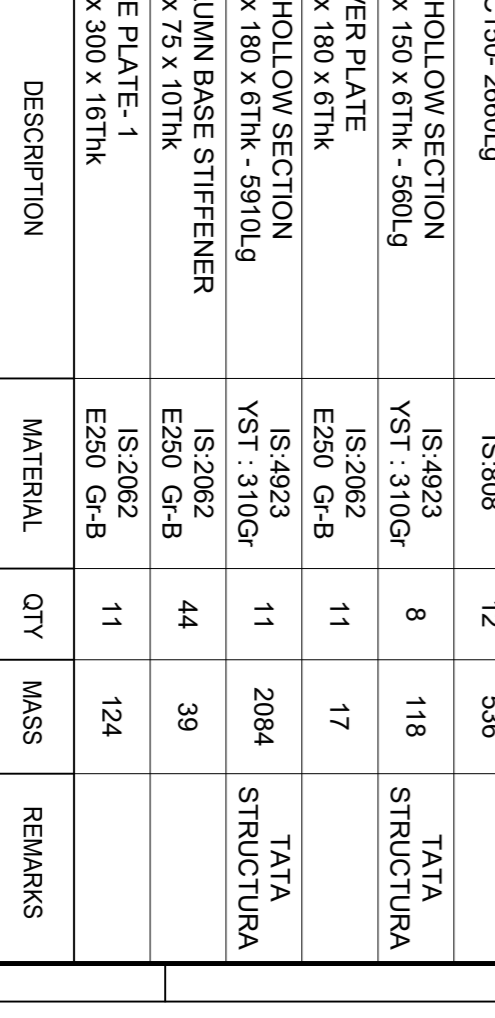
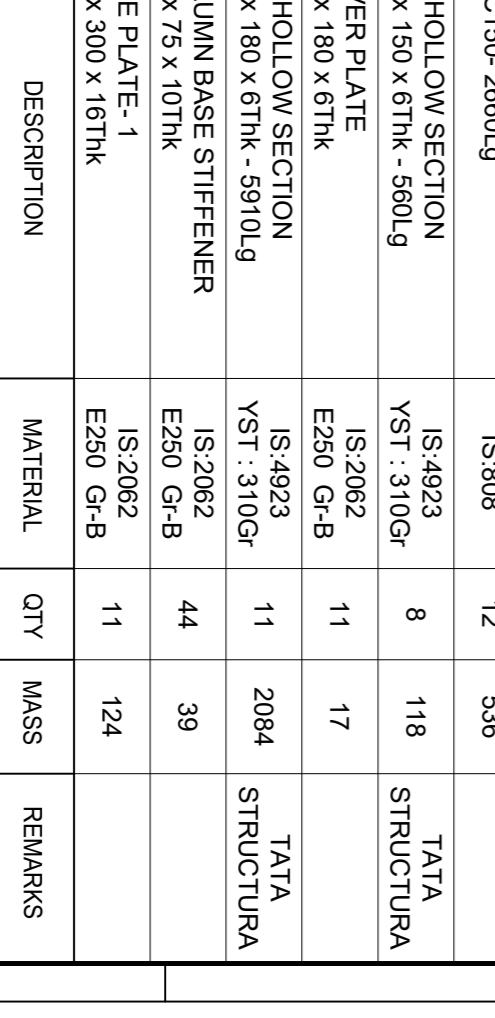
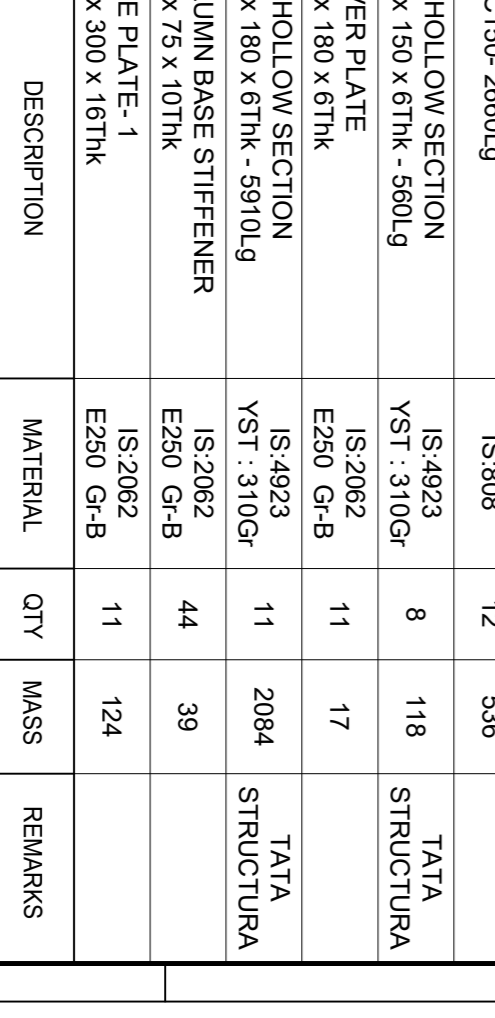
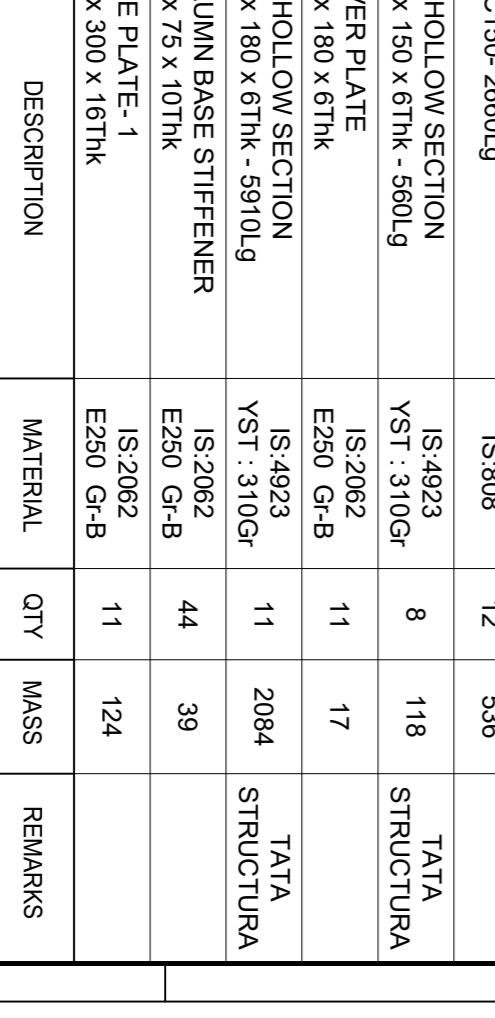
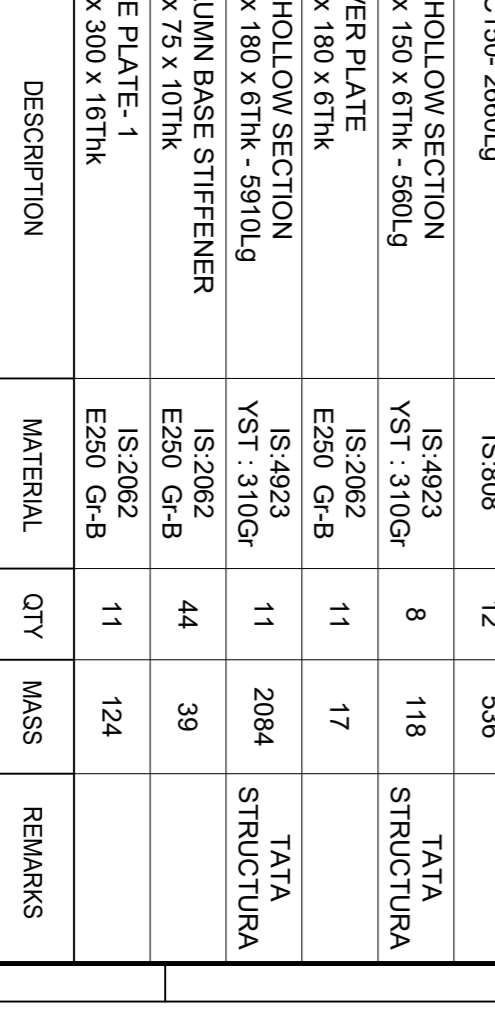
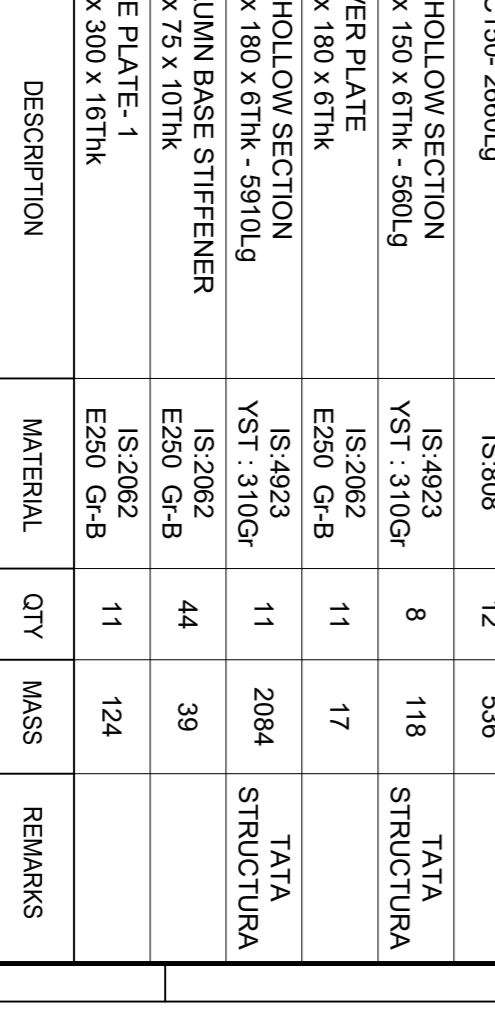
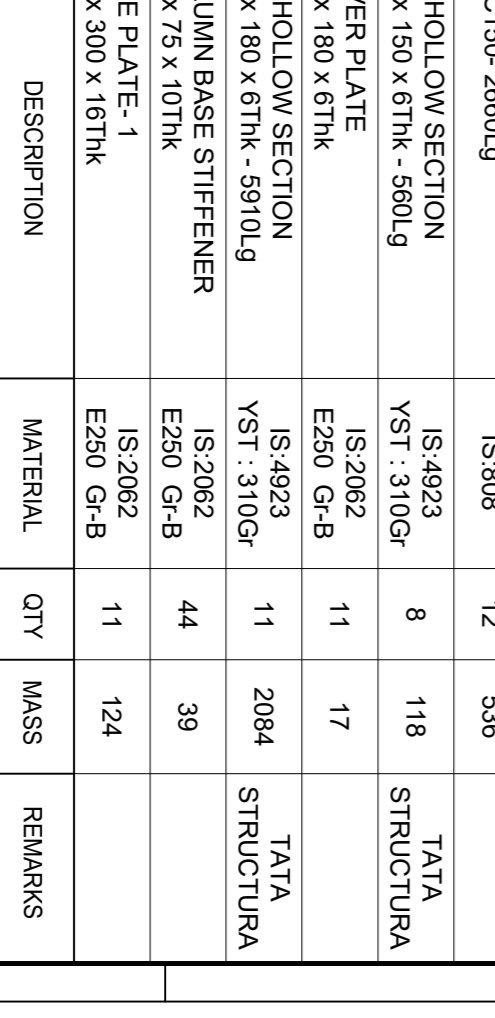
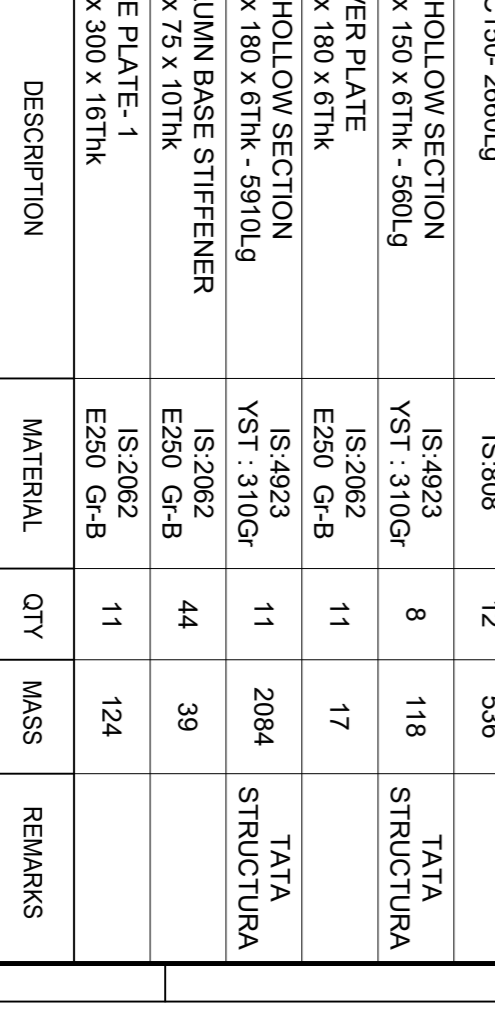
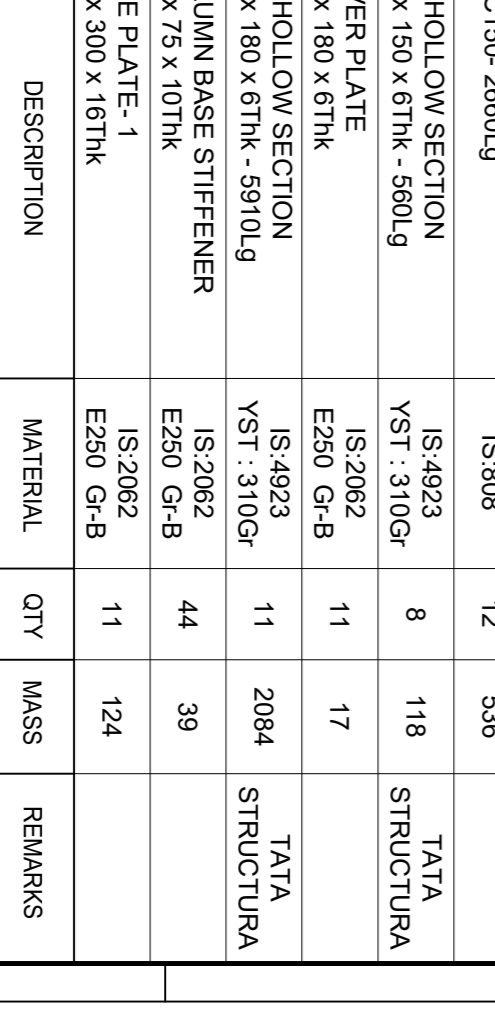
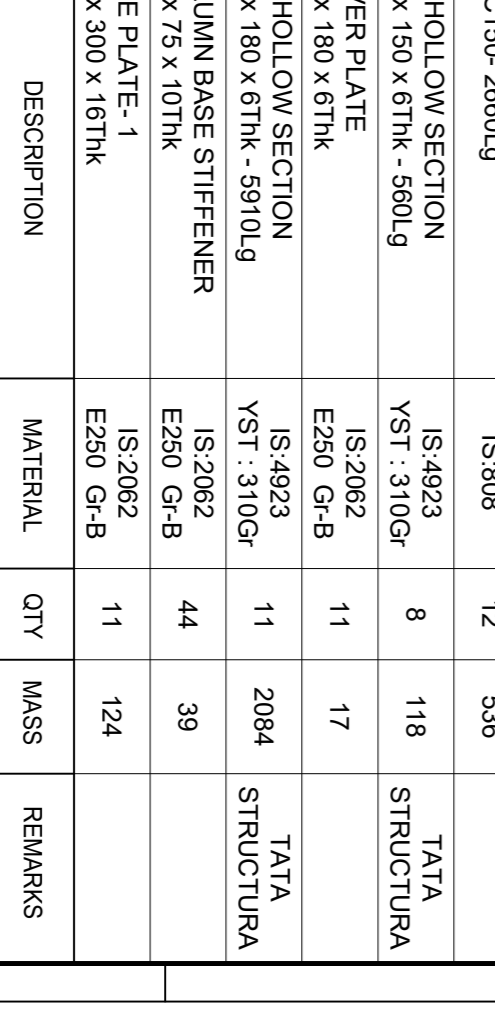
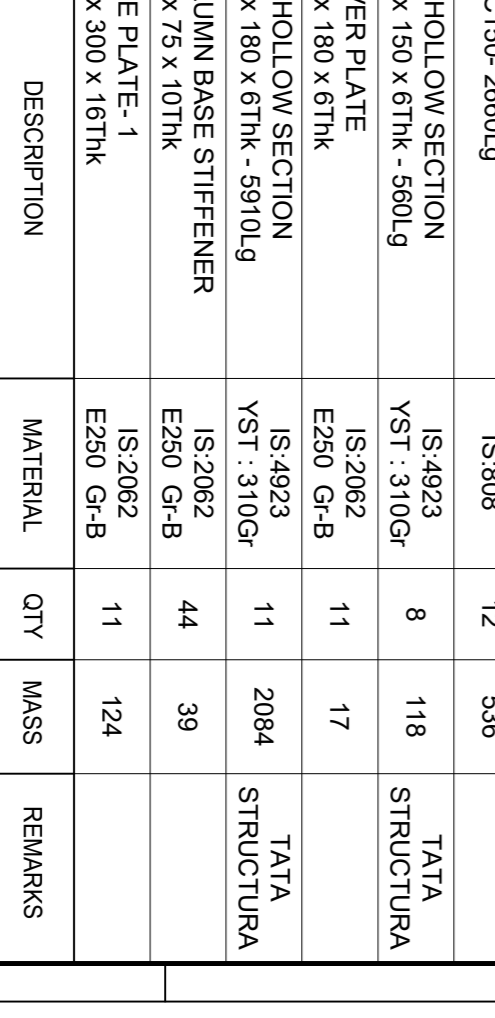
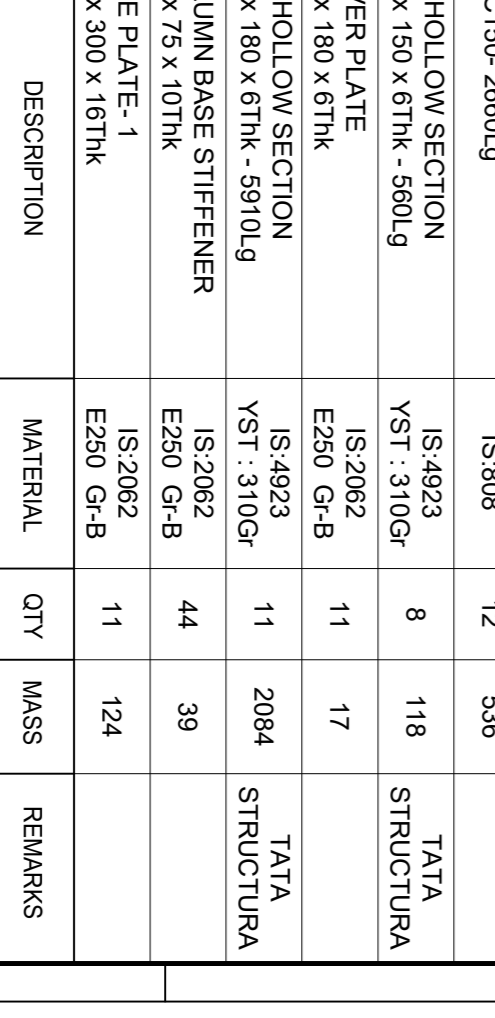
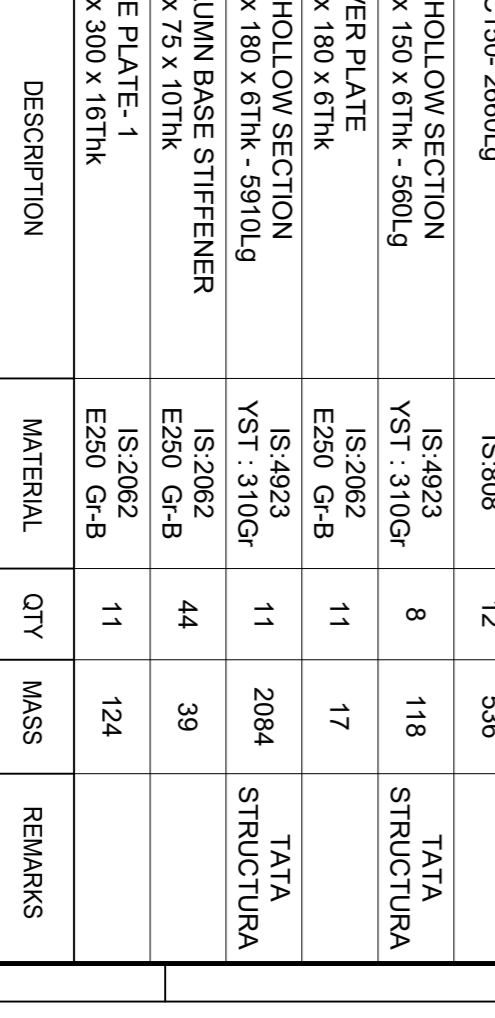
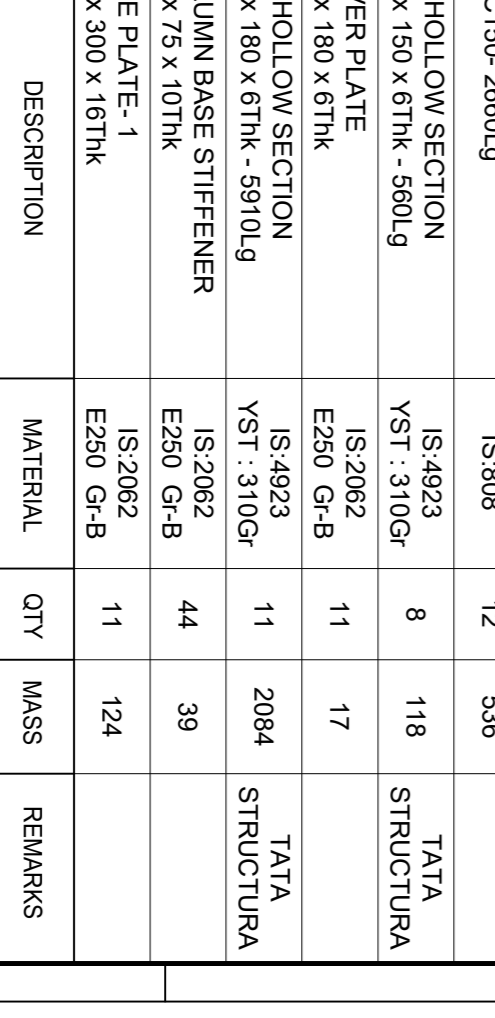
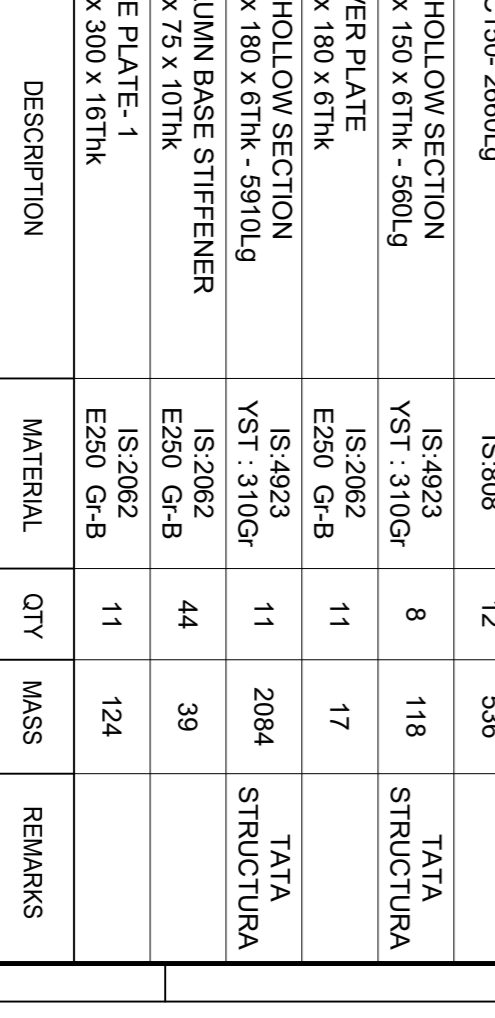
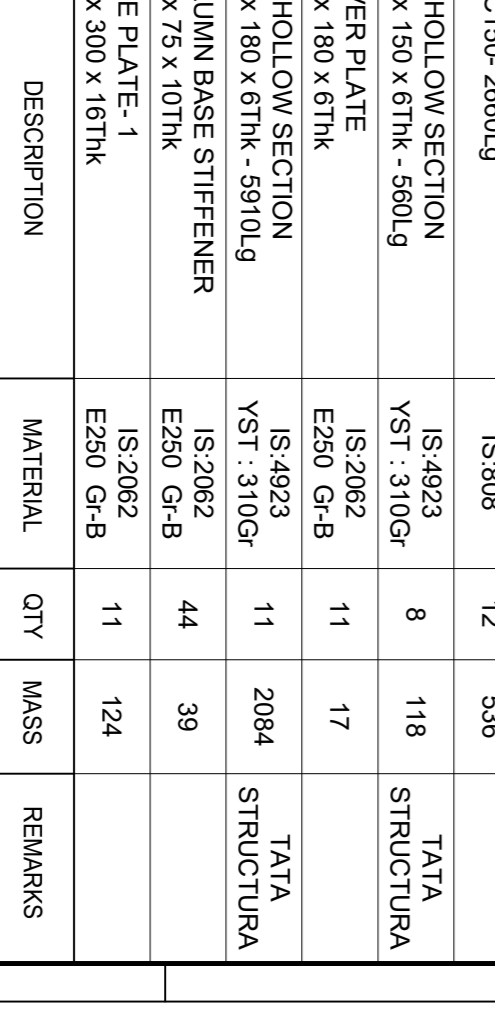
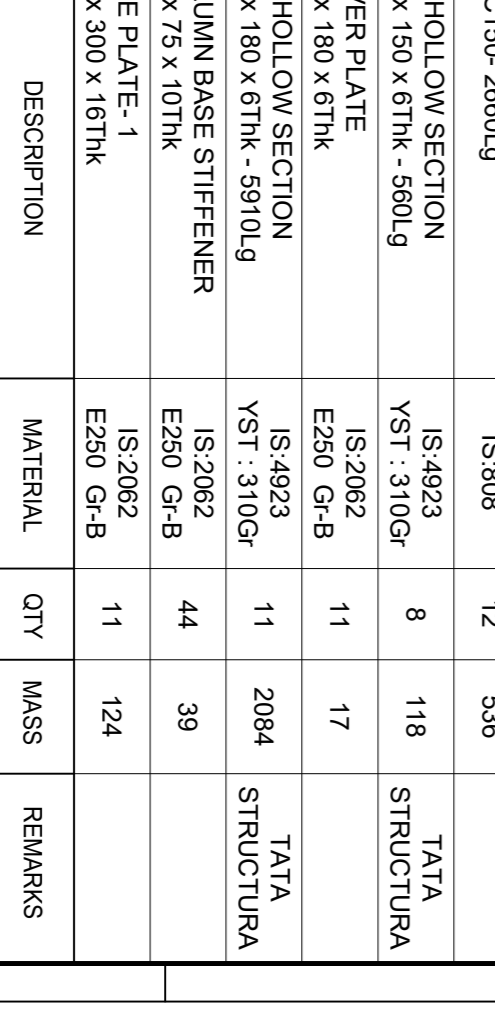
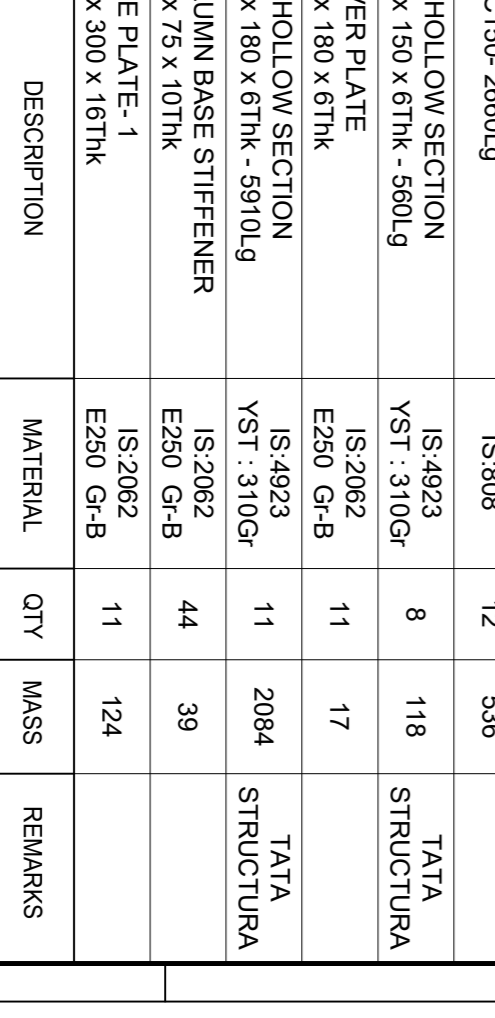
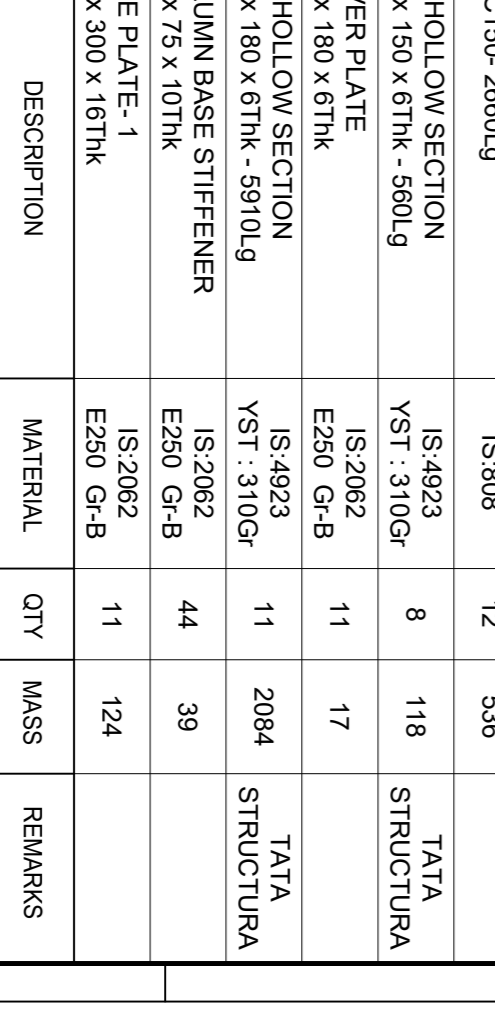
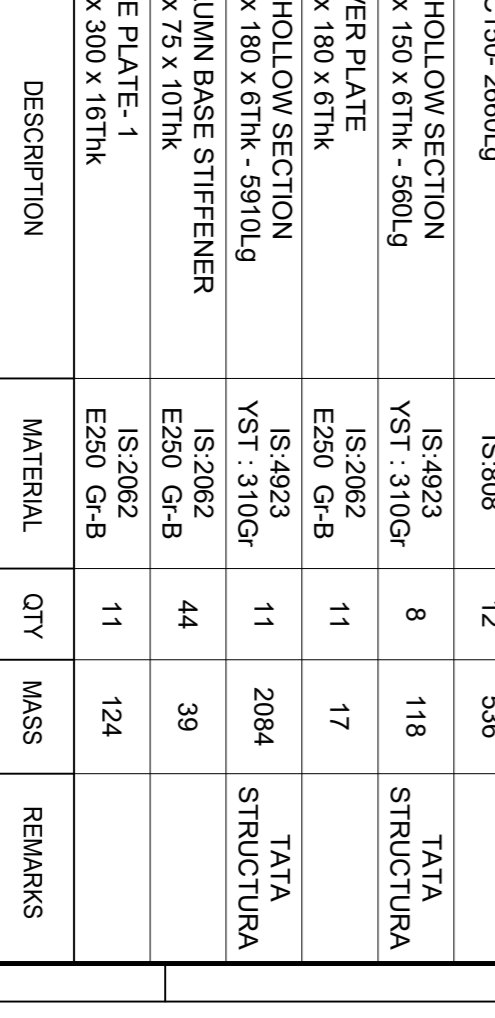
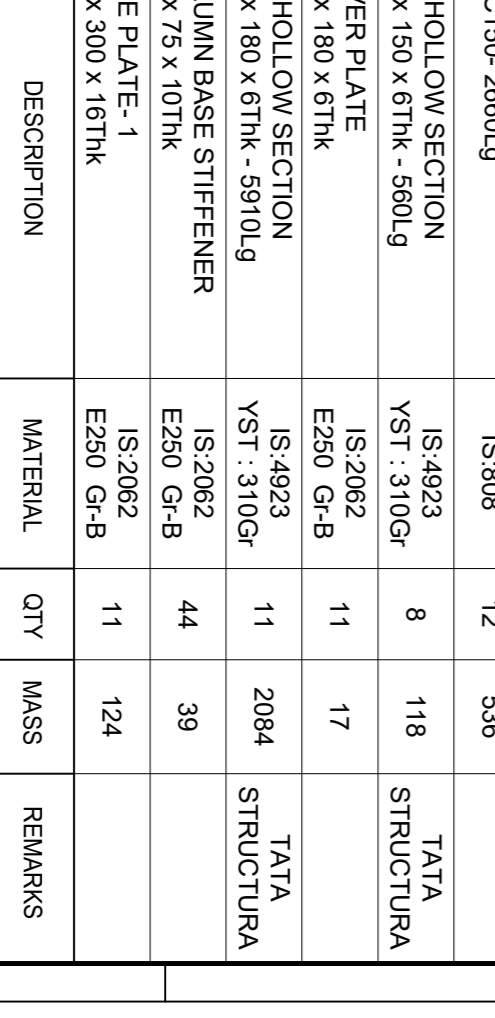
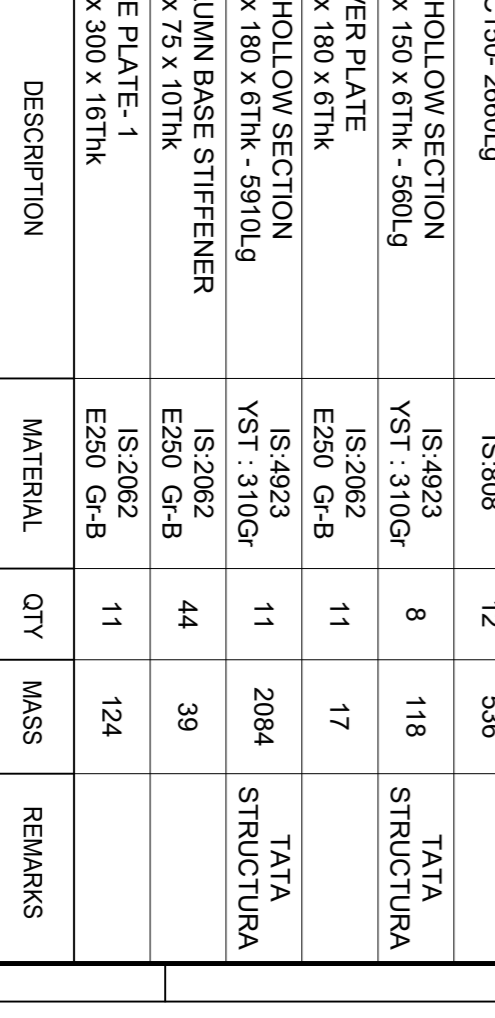
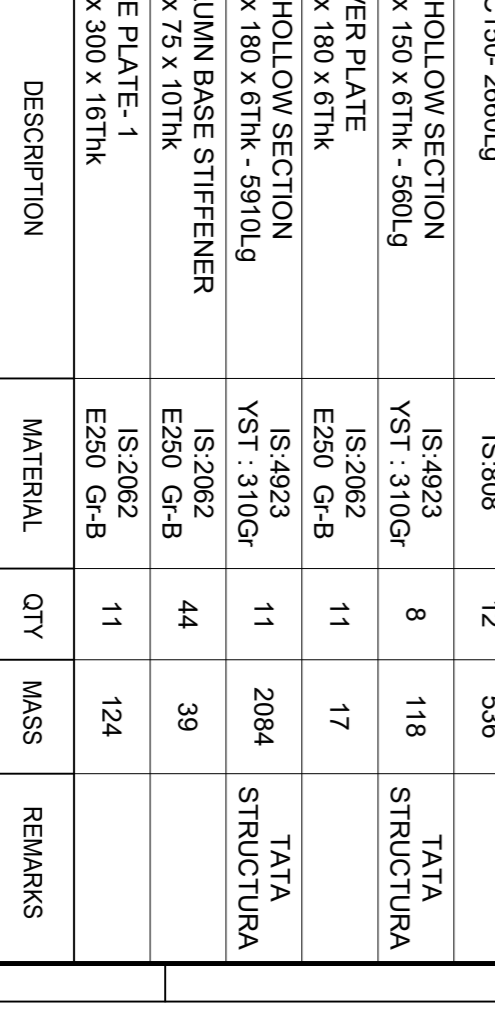
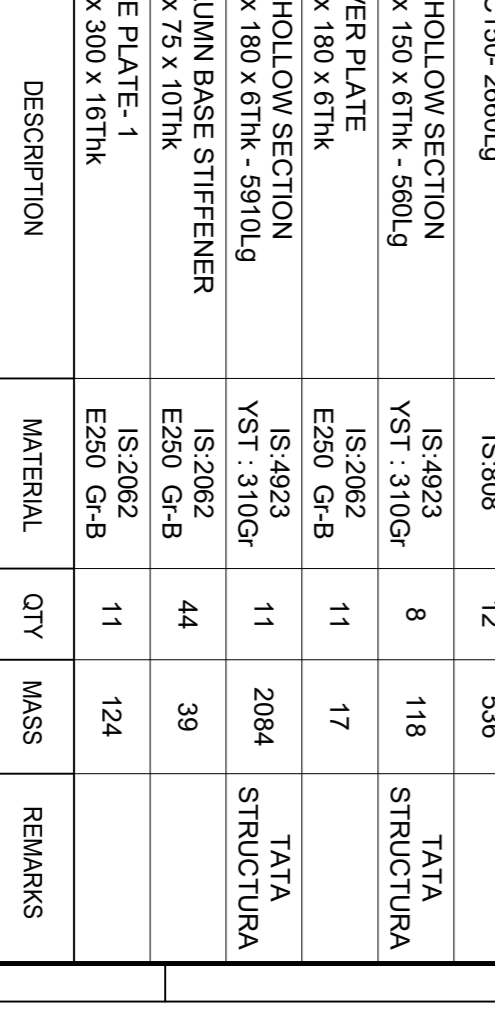
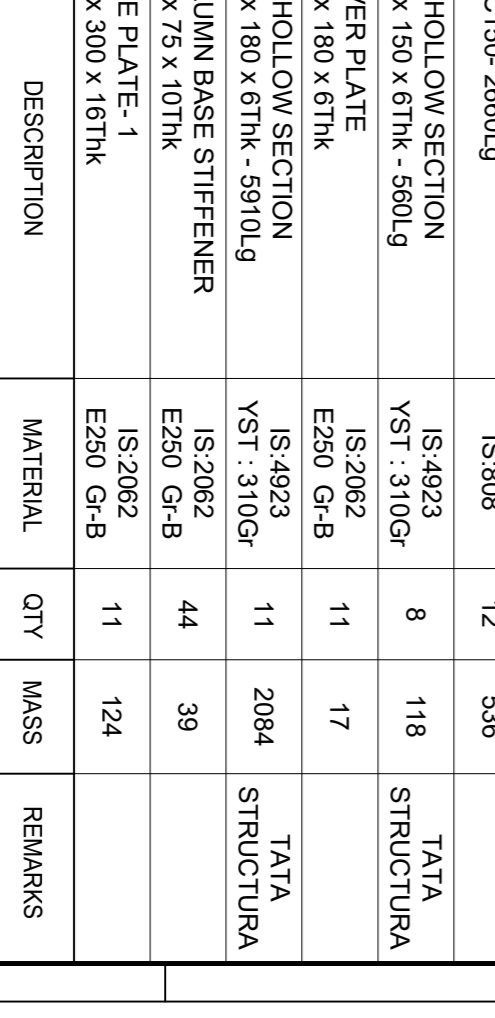
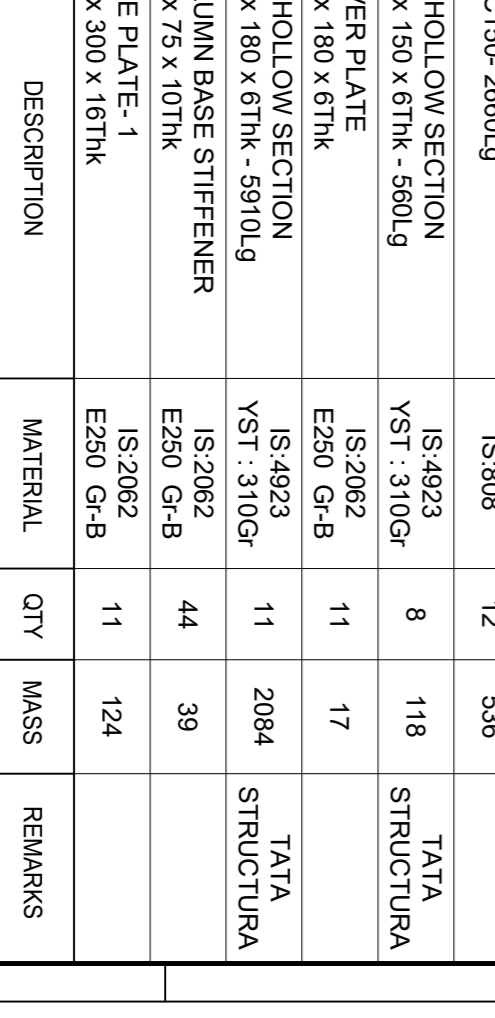
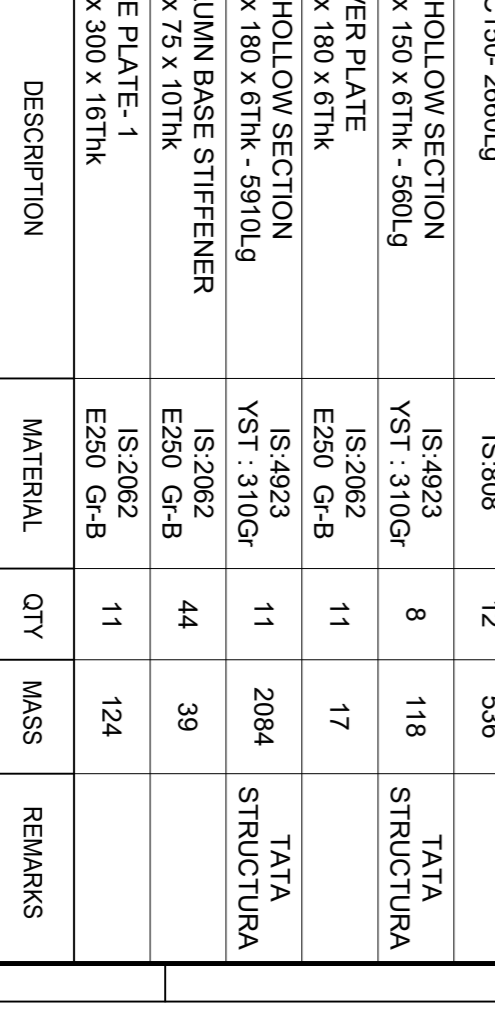
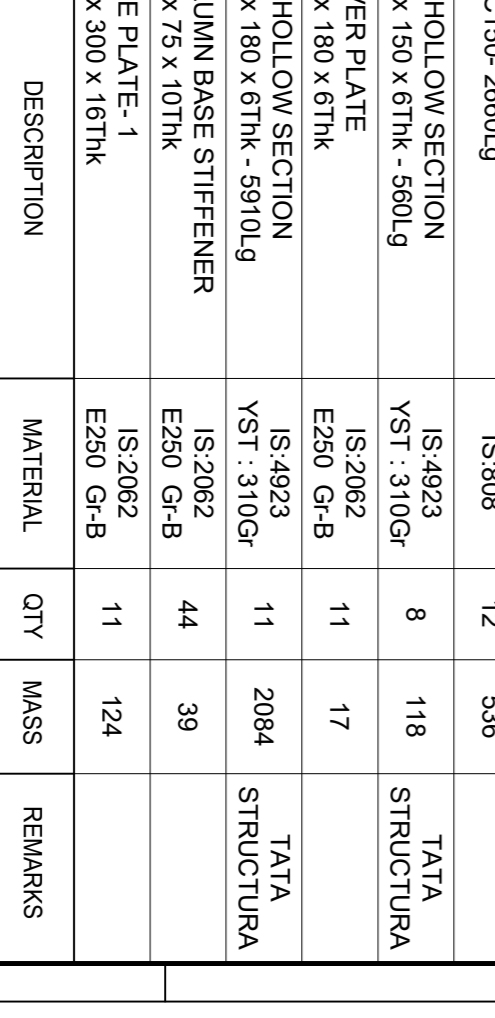
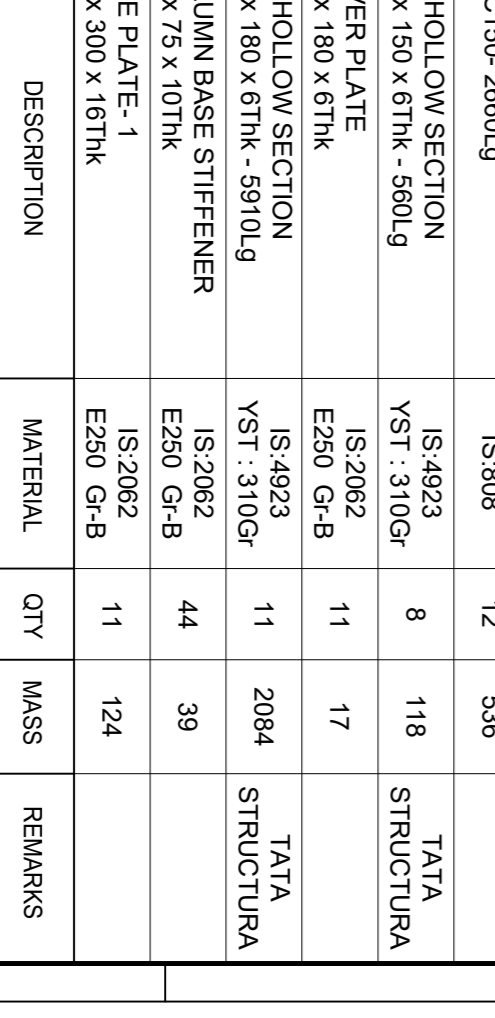
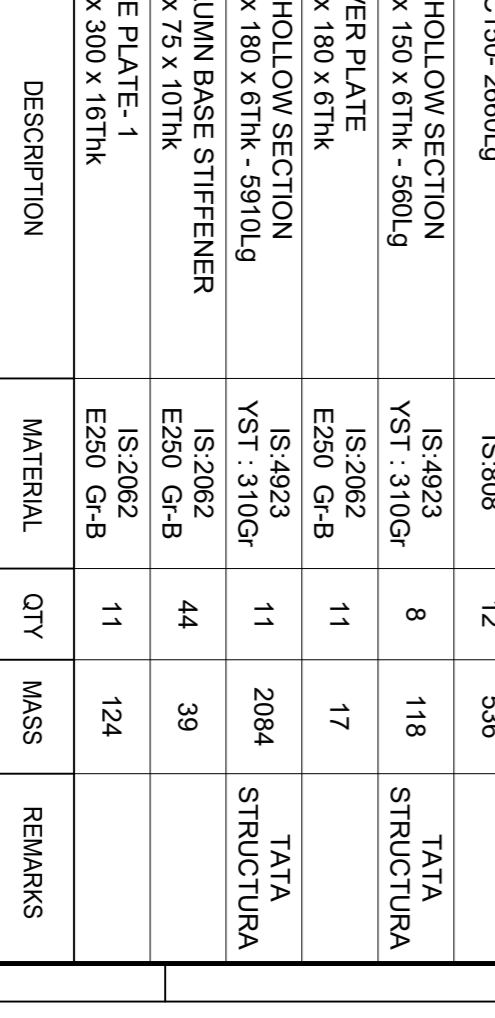
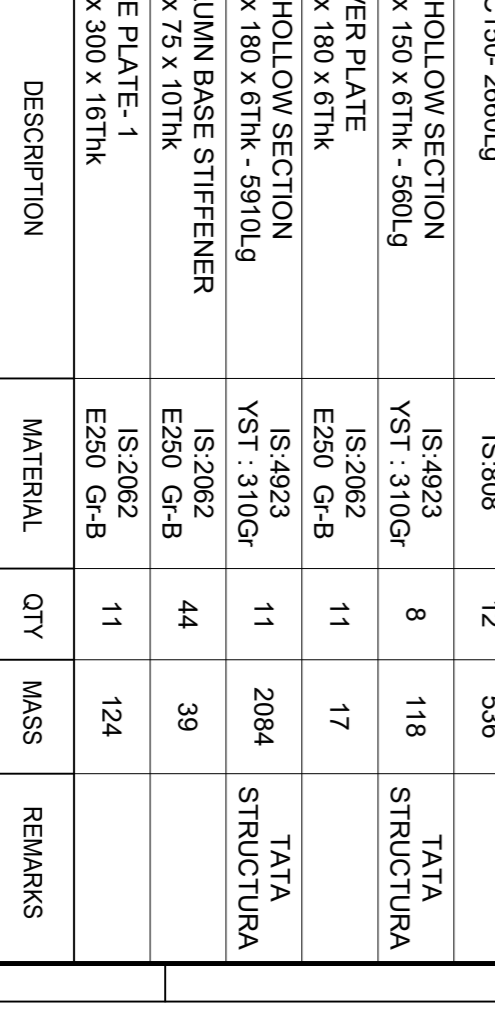
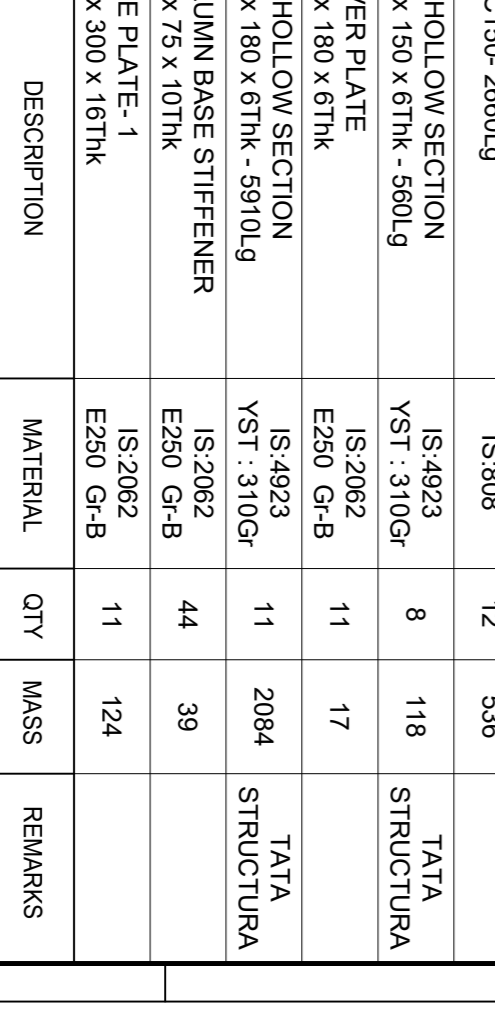
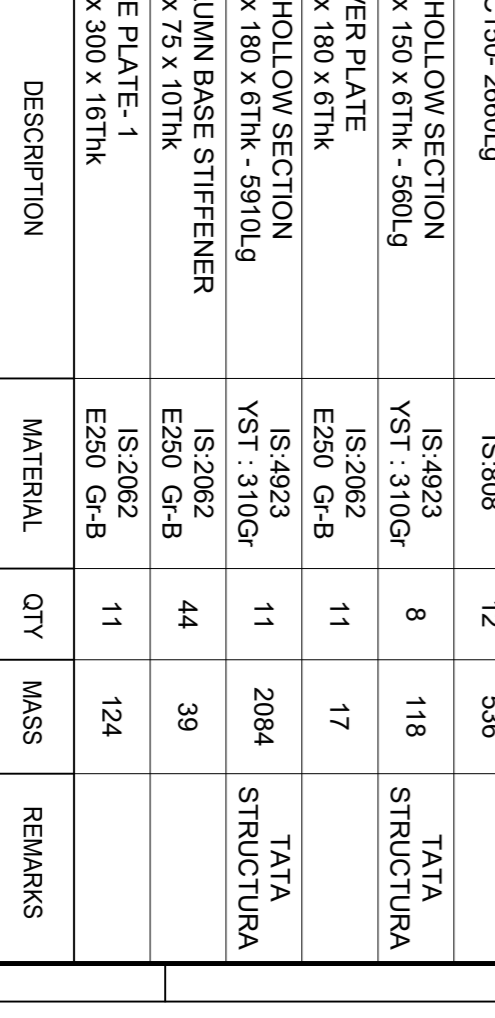
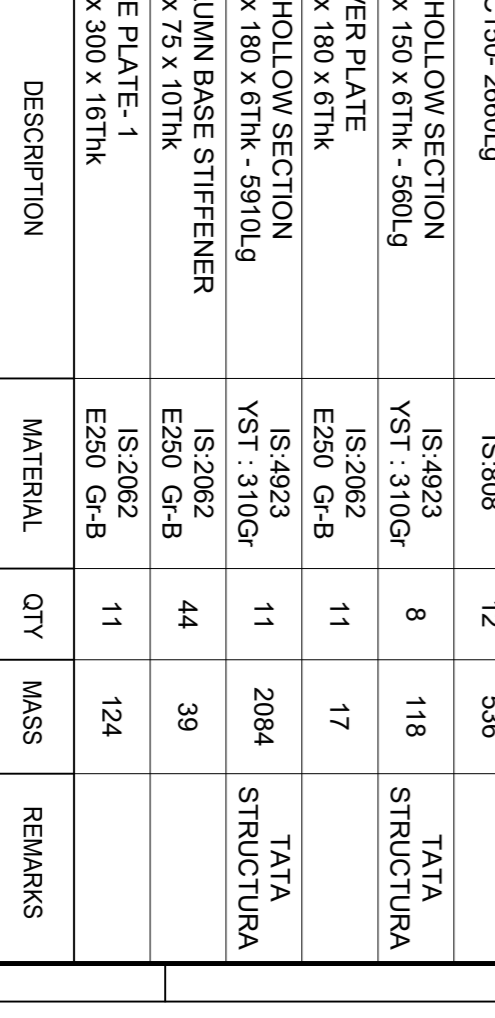
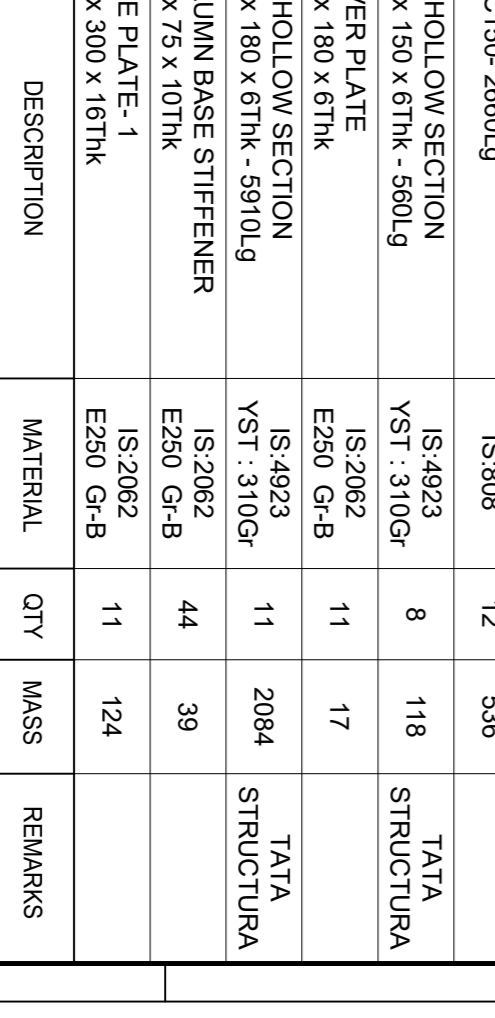
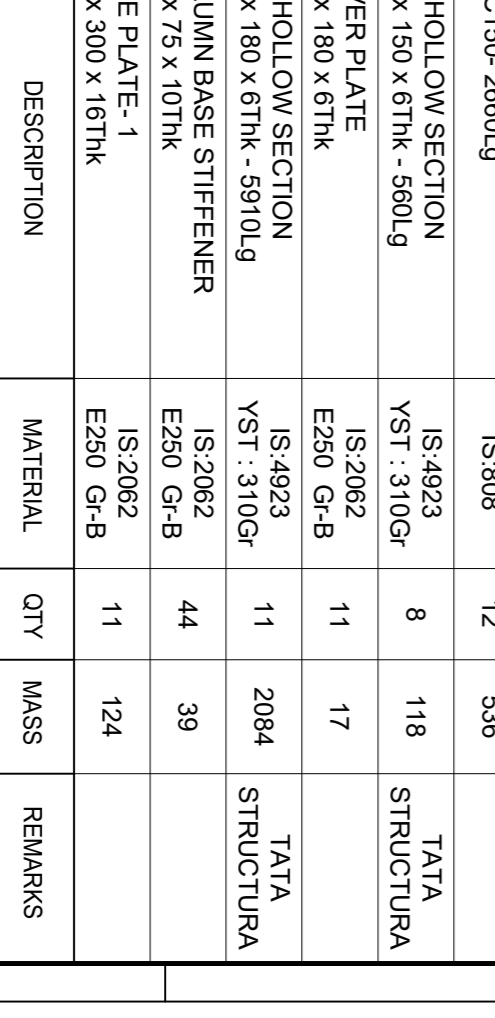
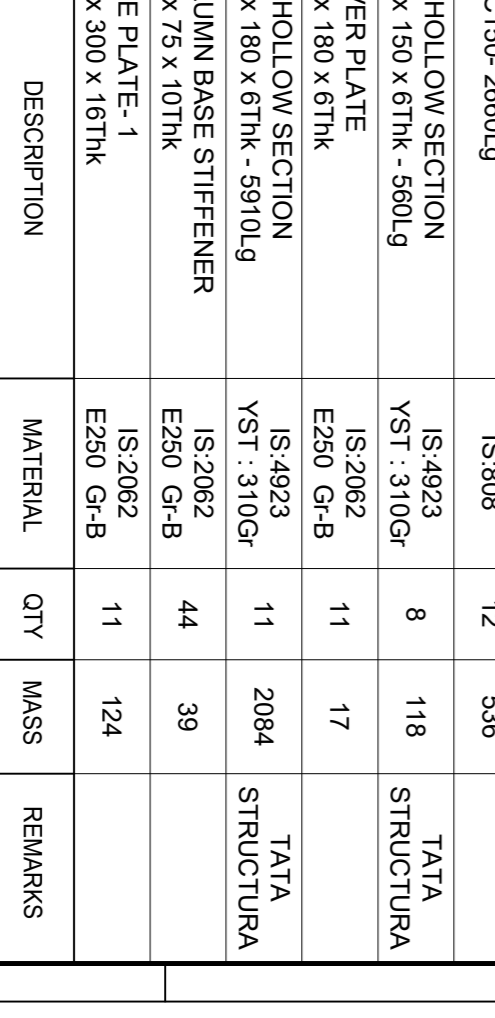
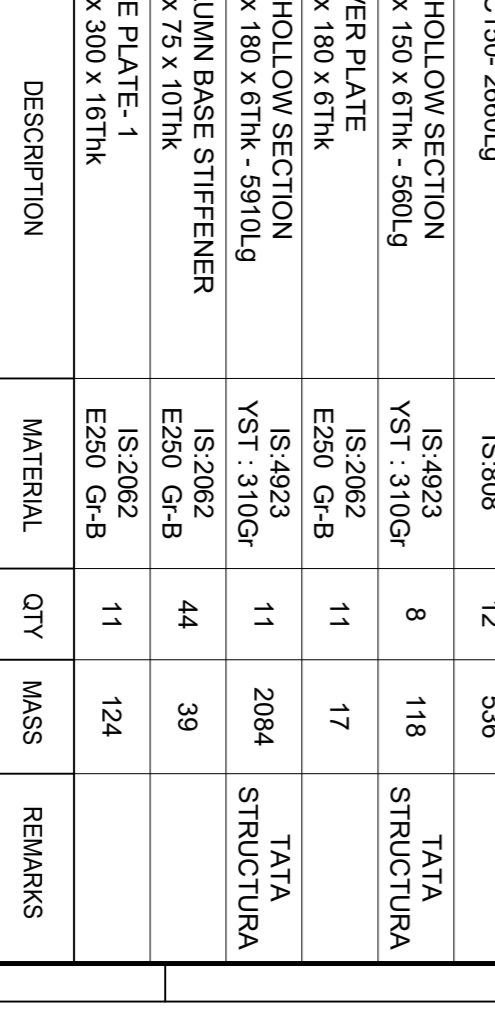
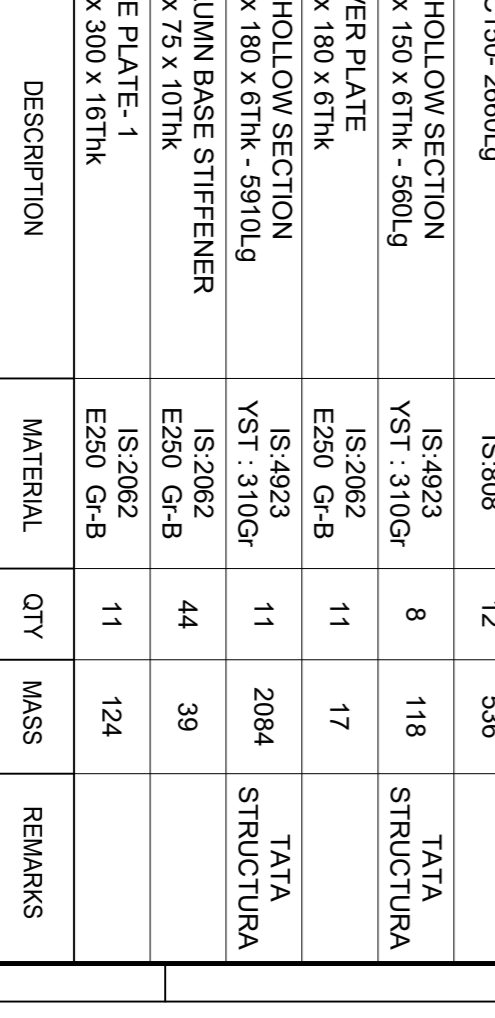
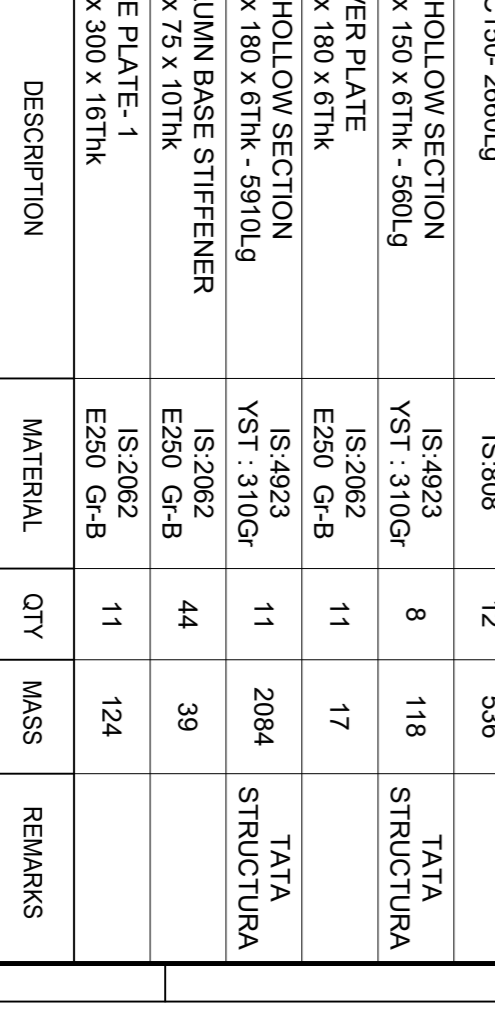
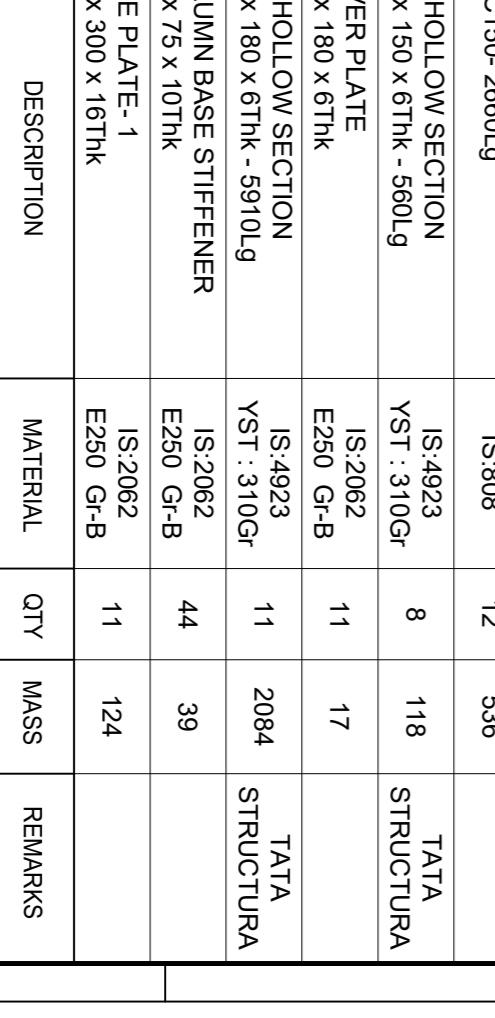
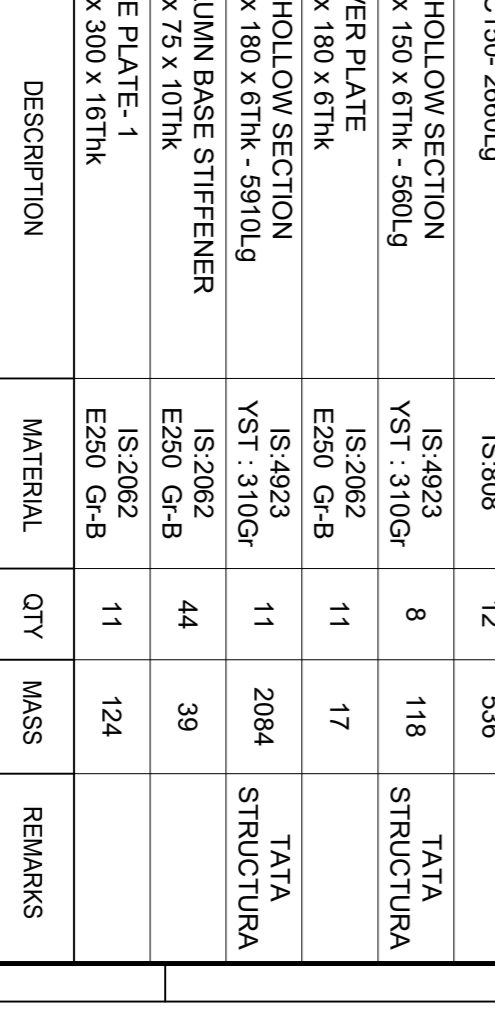
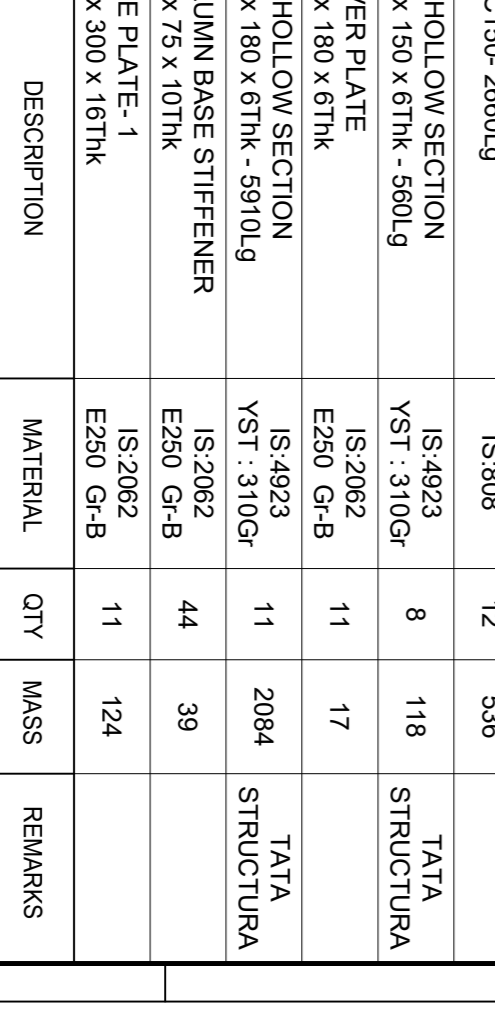
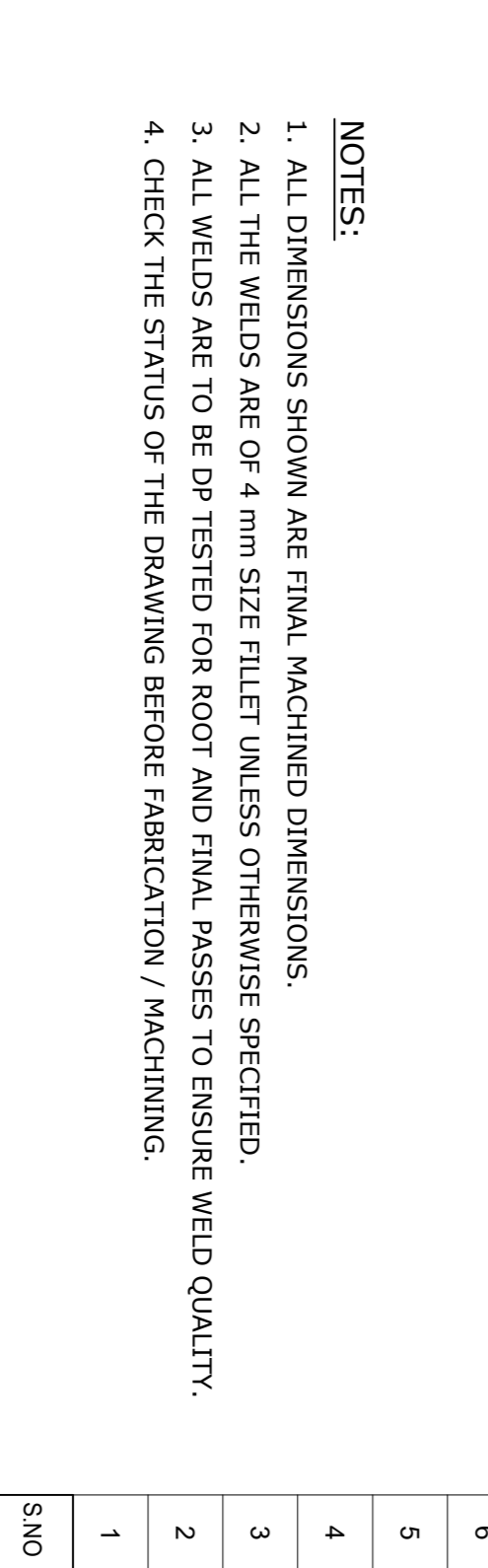
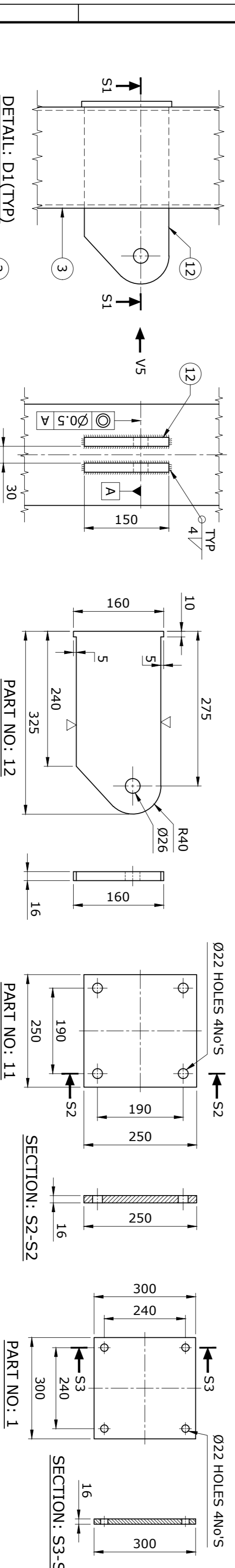
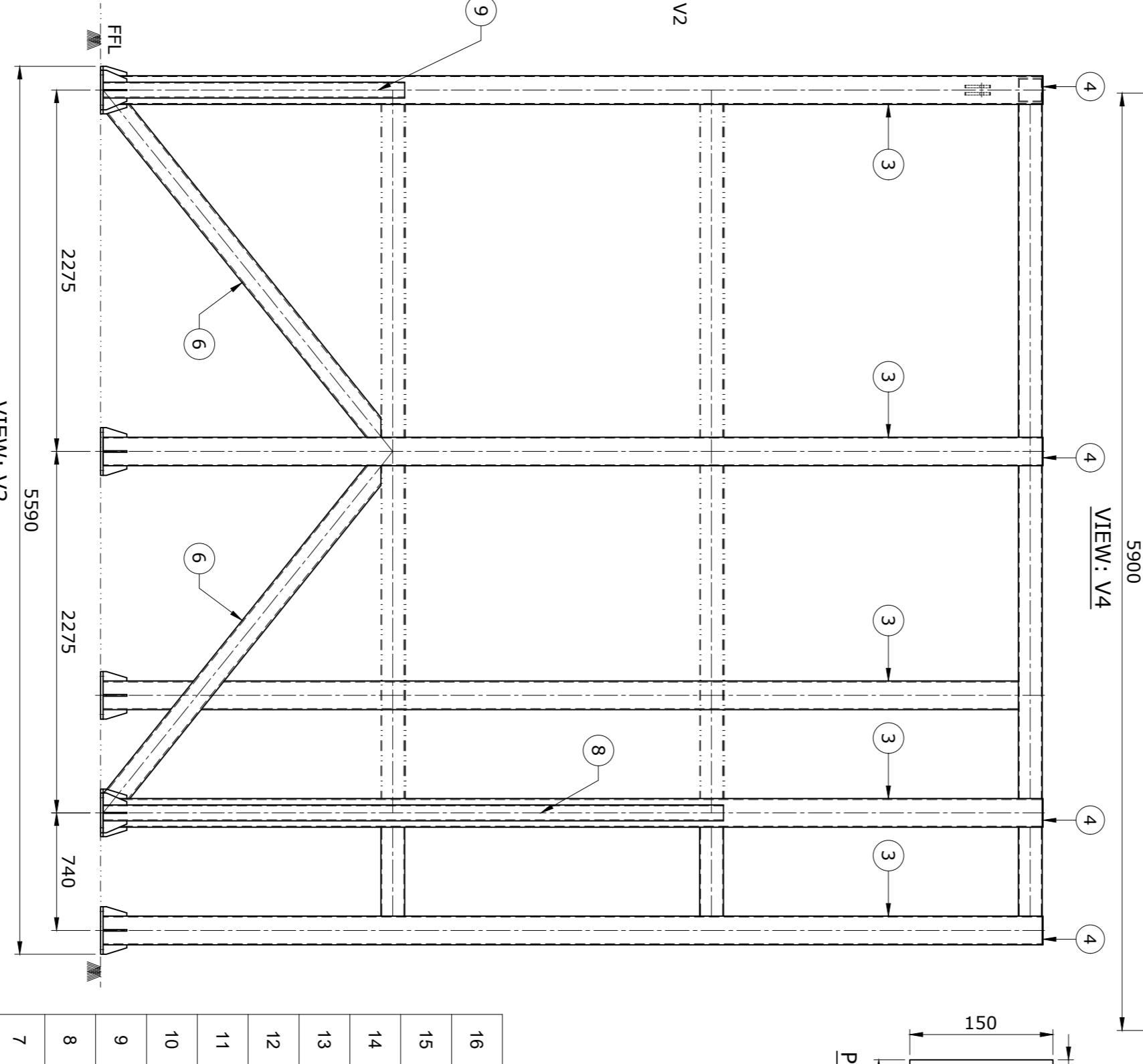
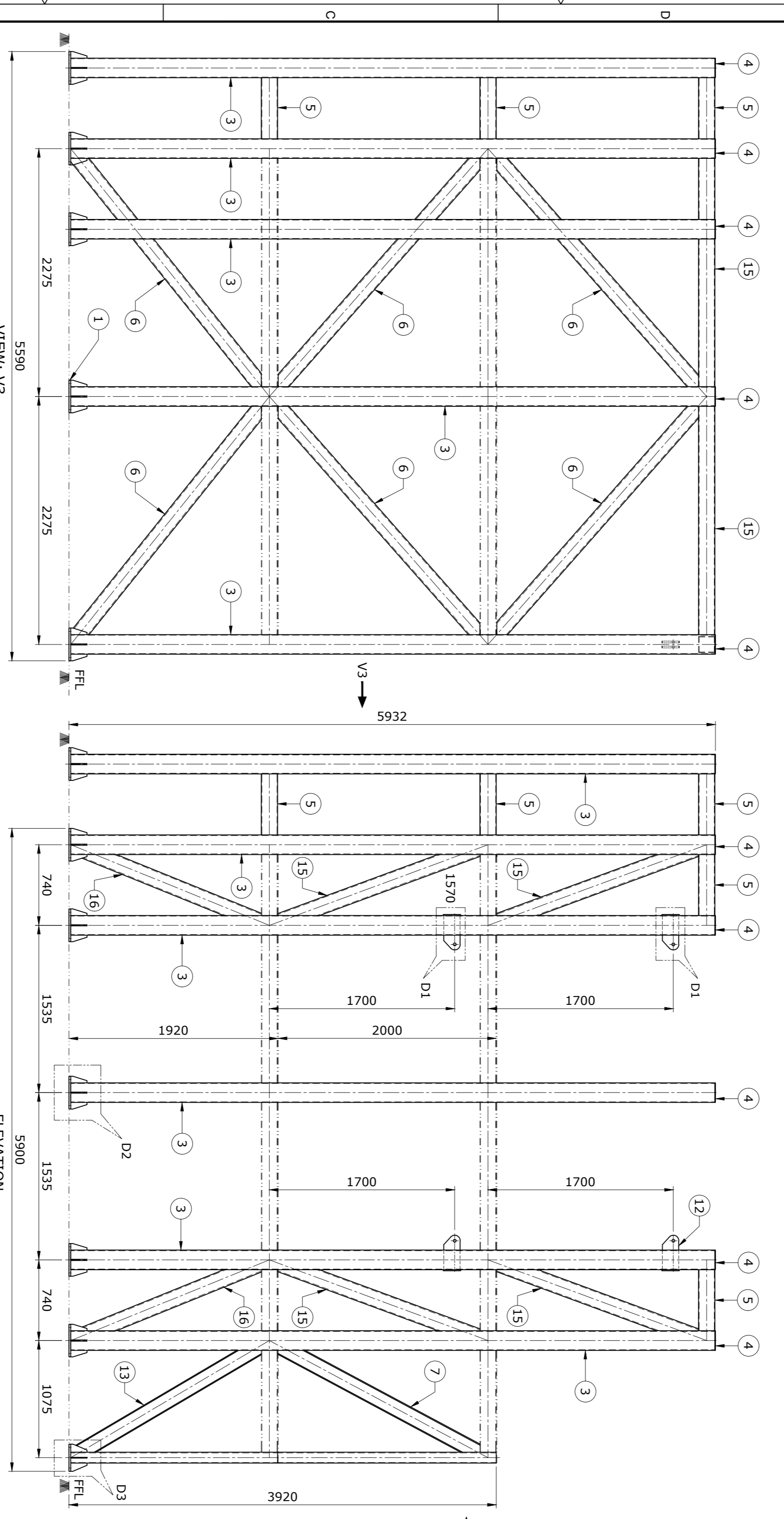
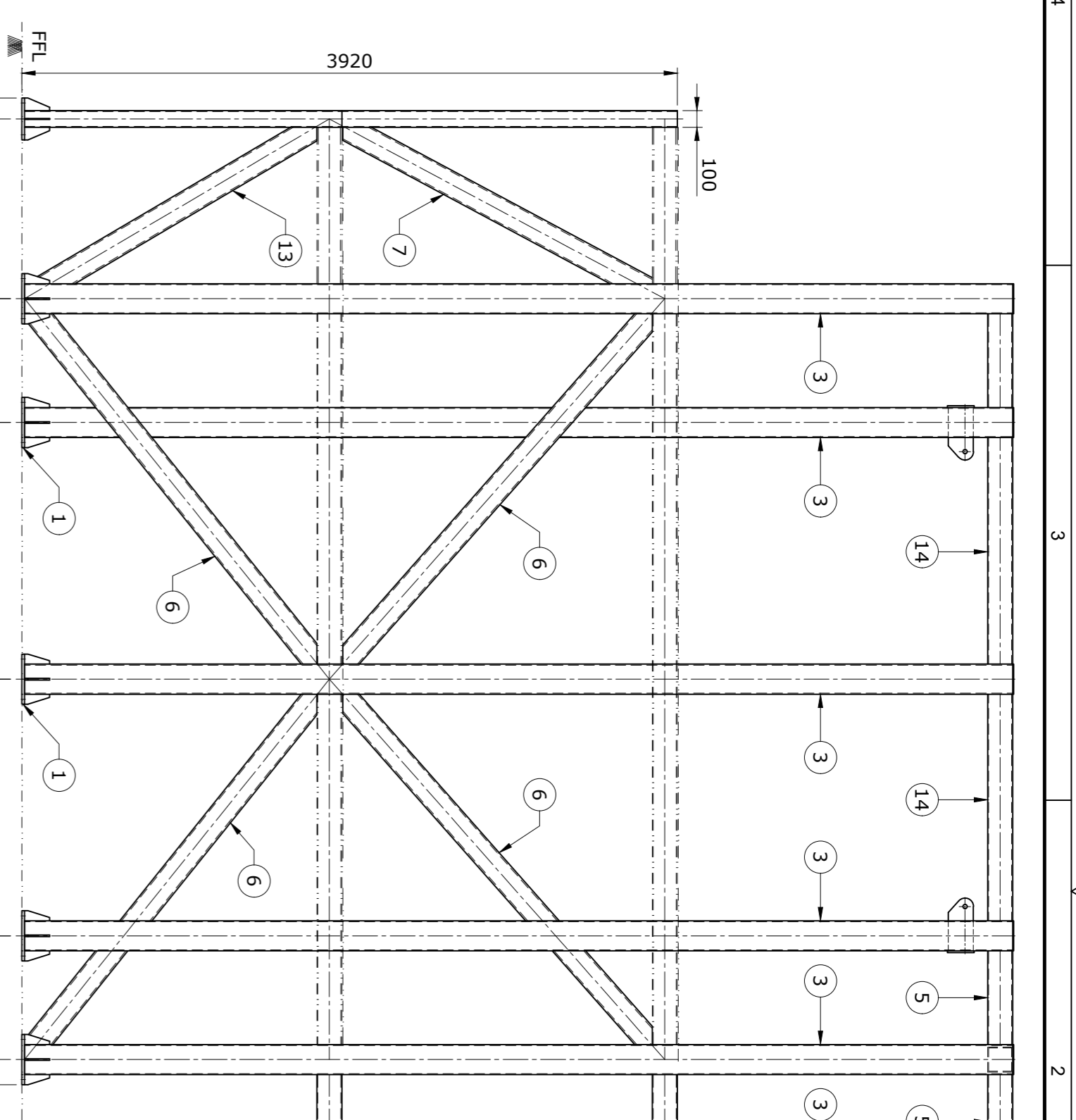
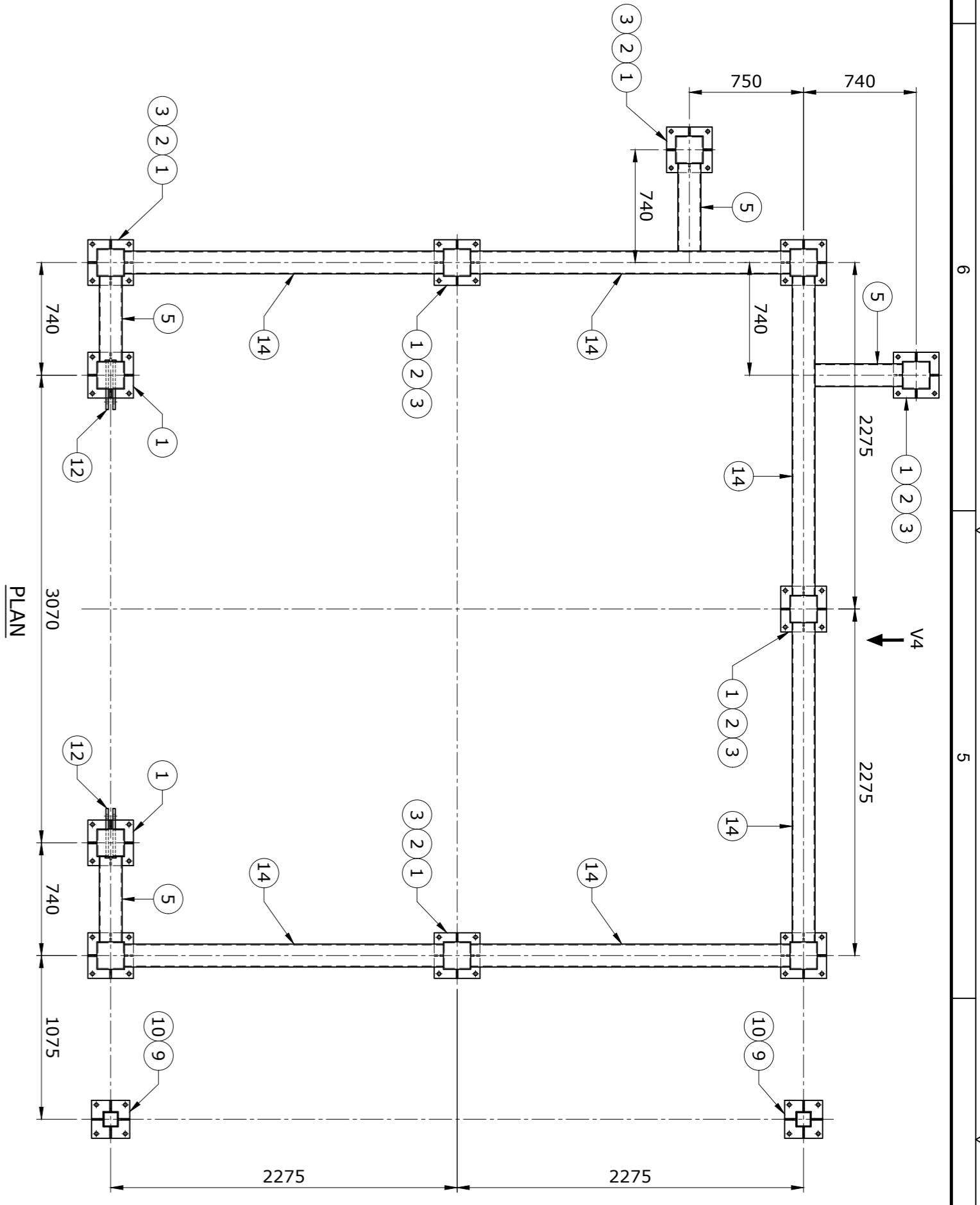
FOR DISCUSSION PURPOSE ONLY

<p><b>STATUS</b></p> <p>DISCUSSION / REVIEW</p> <p>TENDER PURPOSE</p> <p>FABRICATION</p> <p>UNRESTRICTED <input type="checkbox"/> RESTRICTED <input type="checkbox"/> CONFIDENTIAL <input type="checkbox"/></p> <p>THIS DRAWING IS THE PROPERTY OF SDSC-SHAR AND IS ISSUED FOR THE SPECIFIC WORK / PROJECT MENTIONED THEREIN. THIS IS NOT TO BE COPIED OR USED FOR OTHER WORKS / PROJECTS UNLESS EXPRESSLY PERMITTED BY SDSC-SHAR.</p>	<p><b>SIGN</b></p> <p>DATE</p>	<p>DO NOT SCALE THE DRAWING</p> <p>ASK IF IN DOUBT</p> <p>UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS</p> <p>REMOVE SHARP EDGES &amp; BURRS</p> <p>CHAMFER 1 mm. X 45°</p> <p>MACHINING FINISH IN MICRONS :-</p> <p>▽ 8 - 25    ▽ 1.6 - 8</p> <p>▽▽ 0.025 - 1.6    ▽▽▽ &lt; 0.025</p>	<p>DEVIATION FOR NON TOLERANCE DIMENSIONS IS:2102 (PART-1)-1993</p> <p><b>DIAMETERS &amp; LENGTHS</b></p> <p>UPTO &amp; INCL. 6-30.1</p> <p>6 - 30 ±0.3</p> <p>30 - 120 ±0.3</p> <p>120 - 315 ±0.5</p> <p>315 - 1000 ±0.8</p> <p>1000 - 2000 ±1.2</p> <p>2000 - 4000 ±2.0</p> <p>4000 &amp; ABOVE ±3.0</p>	<p><b>LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO &amp; INCL.</b></p> <p>1 - 6 ±1'-00"</p> <p>6 - 30 ±0'-30"</p> <p>30 - 120 ±0'-20"</p> <p>120 - 400 ±0'-10"</p>	<p><b>SCEND</b></p> <p>शार केंद्रीय अभिकल्पनाएं</p> <p>SHAR CENTRAL DESIGNS</p> <p>DESIGNED: KAMAL S</p> <p>DRAWN: SREENU P</p> <p>REVIEWED: P.S. SAI</p> <p>APPROVED: KUNESH KUMAR</p>	<p>श्रीरंक / TITLE: GENERAL ASSEMBLY OF SS2 MODULING TOWER, SLC PROJECT</p> <p>भारत सरकार GOVERNMENT OF INDIA</p> <p>भारतीय अंतरिक्ष अनुसंधान संगठन INDIAN SPACE RESEARCH ORGANISATION</p> <p>सतीश धवन अंतरिक्ष केंद्र शार SATISH DHAWAN SPACE CENTRE SHAR, श्रीहरीकोटा SRIHARIKOTA.</p> <p>पैमाना / SCALE: आरेखन क्र. / DRG. NO. : 10-STR-12-5-83/A1</p> <p>COMP. FILE NO. : AJ-20    REV. No. : R0</p>
--	--------------------------------	---	--	--	---	--

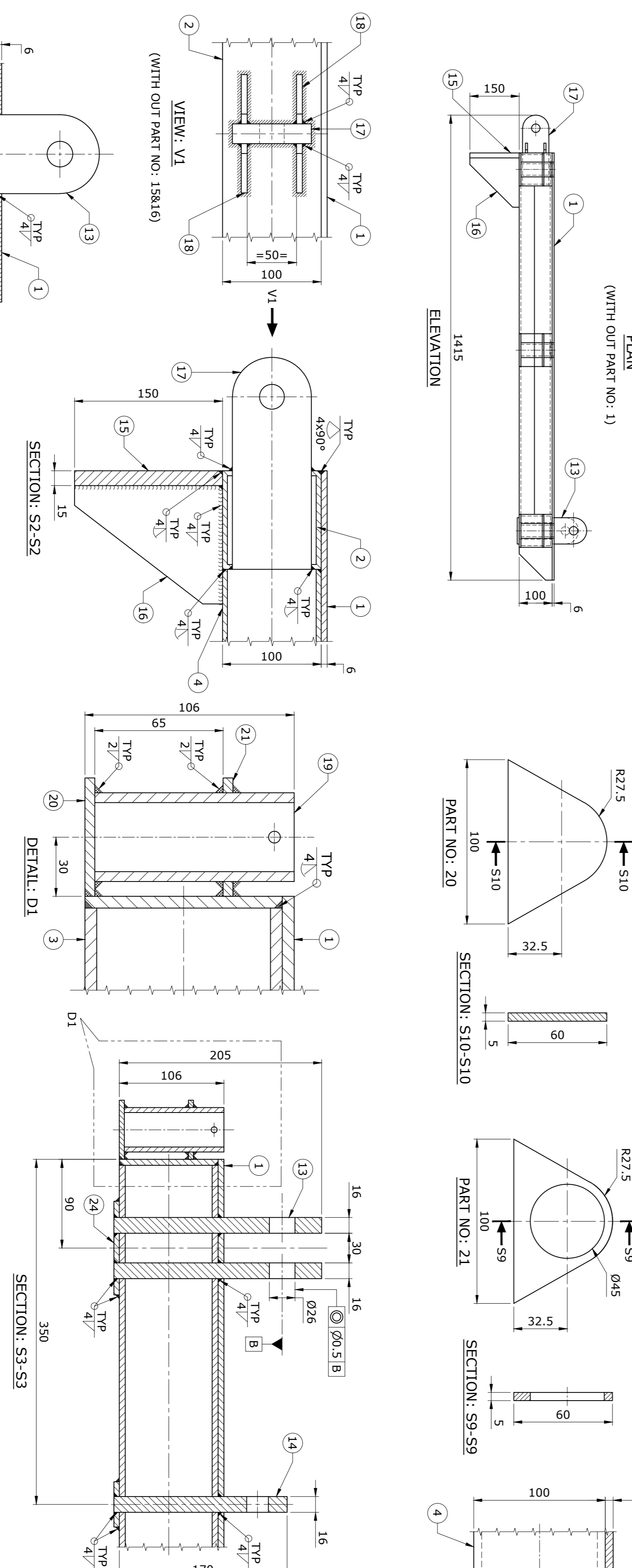
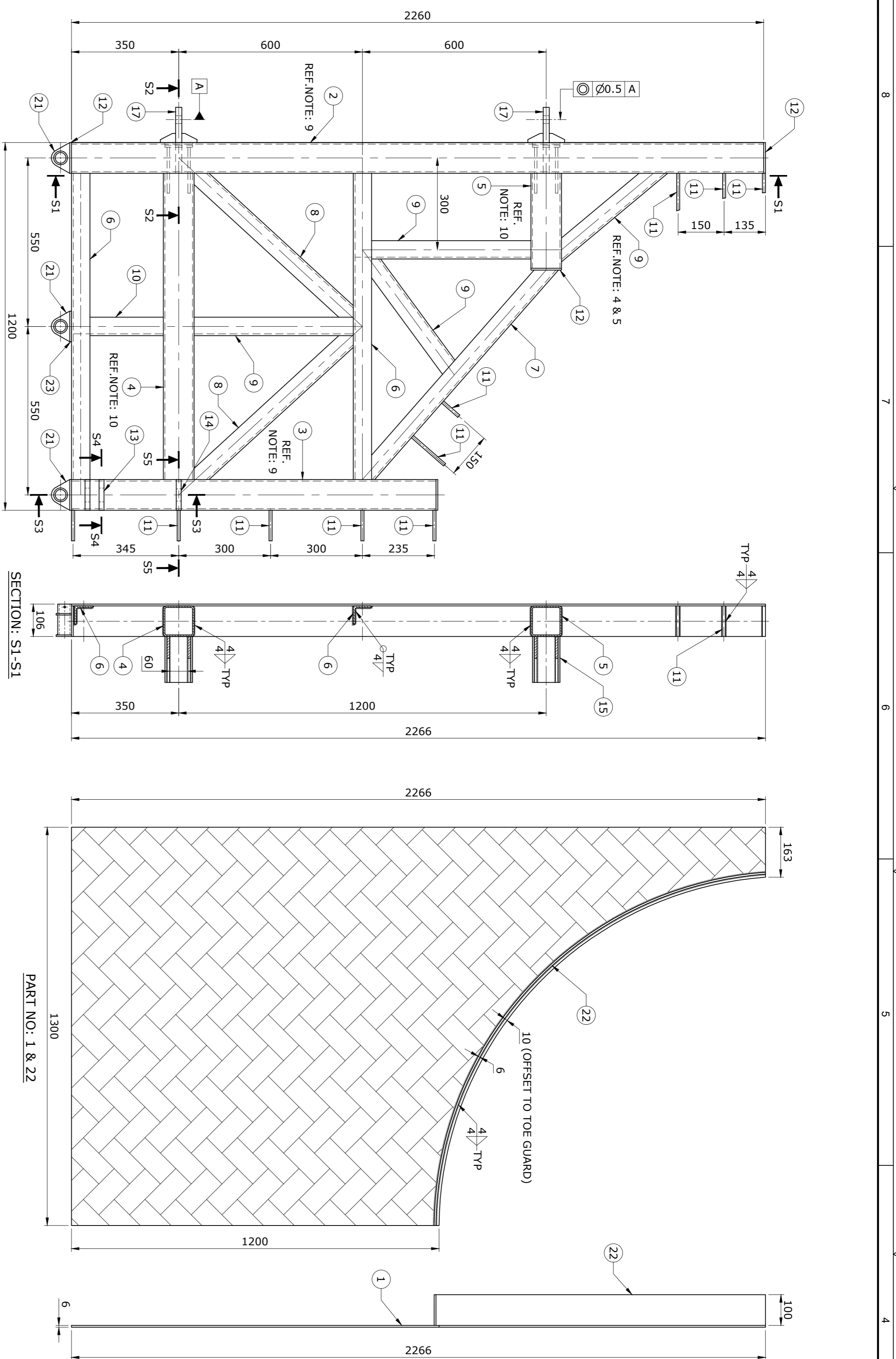
SHEET No. : 1 OF 7











FOR DISCUSSION PURPOSE ONLY

STATUS SIGN DATE

DISCUSSION / REVIEW

TENDER PURPOSE

FABRICATION

UNRESTRICTED  RESTRICTED  COMMERCIAL

THIS DRAWING IS THE PROPERTY OF SSCS-SHARH AND IS ISSUED FOR THE SPECIFIC WORK / PROJECT ON WHICH IT IS USED. IT IS NOT TO BE REPRODUCED OR COPIED FOR OTHER WORKS WITHOUT THE WRITTEN PERMISSION OF SSCS-SHARH.

DO NOT SCALE THE DRAWING

ASK IF IN DOUBT

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS

REMOVE SHARP EDGES & BURRS

CHAMFER 1 mm X 45°

MACHINING FINISH INDICATIONS -

8-25  1.6-8

0.025 - 1.6  0.025

DEVIATION FOR NON-TOLERANCE DIMENSIONS IS 2102 (PART-1)-993

DIMETERS & LENGTHS

UP TO 6 INCH 6:01:1

6 - 30 6:02

30 - 120 6:03

120 - 315 6:05

315 - 1000 6:08

1000 - 2000 6:12

2000 - 4000 6:20

4000 & ABOVE 6:30

LENGTH IN MM OF SINGLE LINE OF

ANGLE UP TO 6 INCH

1 - 6 1:30

6 - 30 1:30

30 - 100 1:45

100 - 400 2:00

400 - 1200 2:30

1200 - 4000 3:00

DESIGNED BY: SHARH

DRAWN BY: SHARH

CHECKED BY: SHARH

APPROVED BY: SHARH

DATE: 10-01-2026

SCALE: 1:10

COMP. FILE NO.: A3-20

SIGNATURE: SHARH

DATE: 10-01-2026

REVISIONS

NO. DESCRIPTION

DATE

BY

REMARKS

1: 10

COMP. FILE NO.: A3-20

REV. NO.: R0

SHEET No.: 6 OF 7

SCEND/A3-20/A1/2026/SREENU.P/KAMAL&MSKR

10 (OFFSET TO TOE GUARD)

THRU HOLE

WELD QUALITY

BILL OF MATERIAL SHOWN FOR ONE ASSEMBLY ONLY TOTAL NO. OF PLATFORMS REQUIRED ARE 4.

3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.

2. ALL THE WELDS ARE OF 4 mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.

1. ALL DIMENSIONS SHOWN ARE FINAL MACHINED DIMENSIONS.

NOTES

SECTION: S2-S2

SECTION: S3-S3

SECTION: S4-S4

SECTION: S1-S1

SECTION: S10-S10

SECTION: S9-S9

SECTION: S5-S5

SECTION: S6-S6

SECTION: S7-S7

SECTION: S8-S8

SECTION: S13

SECTION: S14

SECTION: S15

SECTION: S16

SECTION: S17

SECTION: S18

SECTION: S19

SECTION: S20

SECTION: S21

SECTION: S22

SECTION: S23

SECTION: S24

SECTION: S25

SECTION: S27

SECTION: S28

SECTION: S30

SECTION: S31

SECTION: S32

SECTION: S33

SECTION: S34

SECTION: S35

SECTION: S36

SECTION: S37

SECTION: S38

SECTION: S39

SECTION: S40

SECTION: S41

SECTION: S42

SECTION: S43

SECTION: S44

SECTION: S45

SECTION: S46

SECTION: S47

SECTION: S48

SECTION: S49

SECTION: S50

SECTION: S51

SECTION: S52

SECTION: S53

SECTION: S54

SECTION: S55

SECTION: S56

SECTION: S57

SECTION: S58

SECTION: S59

SECTION: S60

SECTION: S61

SECTION: S62

SECTION: S63

SECTION: S64

SECTION: S65

SECTION: S66

SECTION: S67

SECTION: S68

SECTION: S69

SECTION: S70

SECTION: S71

SECTION: S72

SECTION: S73

SECTION: S74

SECTION: S75

SECTION: S76

SECTION: S77

SECTION: S78

SECTION: S79

SECTION: S80

SECTION: S81

SECTION: S82

SECTION: S83

SECTION: S84

SECTION: S85

SECTION: S86

SECTION: S87

SECTION: S88

SECTION: S89

SECTION: S90

SECTION: S91

SECTION: S92

SECTION: S93

SECTION: S94

SECTION: S95

SECTION: S96

SECTION: S97

SECTION: S98

SECTION: S99

SECTION: S100

SECTION: S101

SECTION: S102

SECTION: S103

SECTION: S104

SECTION: S105

SECTION: S106

SECTION: S107

SECTION: S108

SECTION: S109

SECTION: S110

SECTION: S111

SECTION: S112

SECTION: S113

SECTION: S114

SECTION: S115

SECTION: S116

SECTION: S117

SECTION: S118

SECTION: S119

SECTION: S120

SECTION: S121

SECTION: S122

SECTION: S123

SECTION: S124

SECTION: S125

SECTION: S126

SECTION: S127

SECTION: S128

SECTION: S129

SECTION: S130

SECTION: S131

SECTION: S132

SECTION: S133

SECTION: S134

SECTION: S135

SECTION: S136

SECTION: S137

SECTION: S138

SECTION: S139

SECTION: S140

SECTION: S141

SECTION: S142

SECTION: S143

SECTION: S144

SECTION: S145

SECTION: S146

SECTION: S147

SECTION: S148

SECTION: S149

SECTION: S150

SECTION: S151

SECTION: S152

SECTION: S153

SECTION: S154

SECTION: S155

SECTION: S156

SECTION: S157

SECTION: S158

SECTION: S159

SECTION: S160

SECTION: S161

SECTION: S162

SECTION: S163

SECTION: S164

SECTION: S165

SECTION: S166

SECTION: S167

SECTION: S168

SECTION: S169

SECTION: S170

SECTION: S171

SECTION: S172

SECTION: S173

SECTION: S174

SECTION: S175

SECTION: S176

SECTION: S177

SECTION: S178

SECTION: S179

SECTION: S180

SECTION: S181

SECTION: S182

SECTION: S183

SECTION: S184

SECTION: S185

SECTION: S186

SECTION: S187

SECTION: S188

SECTION: S189

SECTION: S190

SECTION: S191

SECTION: S192

SECTION: S193

SECTION: S194

SECTION: S195

SECTION: S196

SECTION: S197

SECTION: S198

SECTION: S199

SECTION: S200

SECTION: S201

SECTION: S202

SECTION: S203

SECTION: S204

SECTION: S205

SECTION: S206

SECTION: S207

SECTION: S208

SECTION: S209

SECTION: S210

SECTION: S211

SECTION: S212

SECTION: S213

SECTION: S214

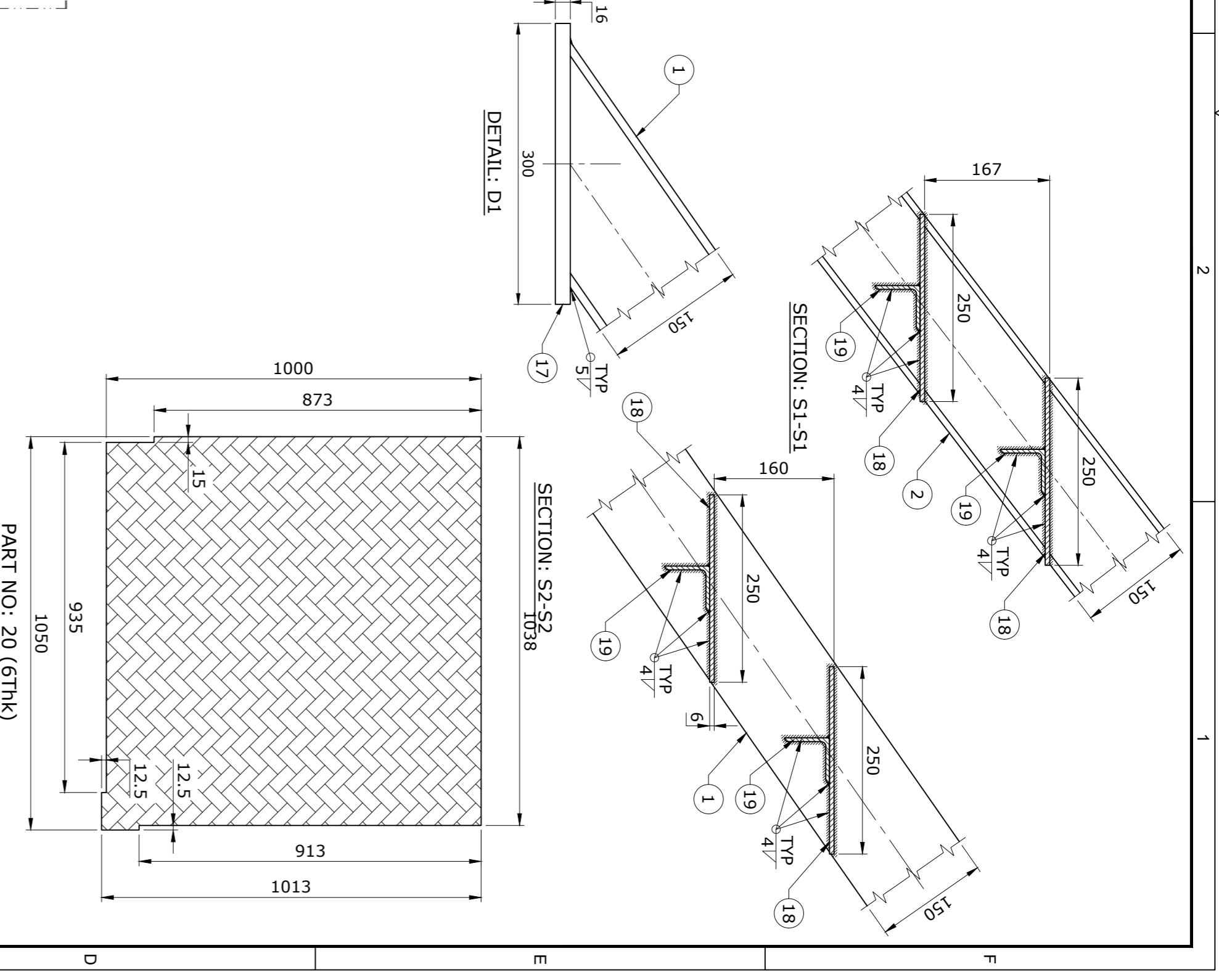
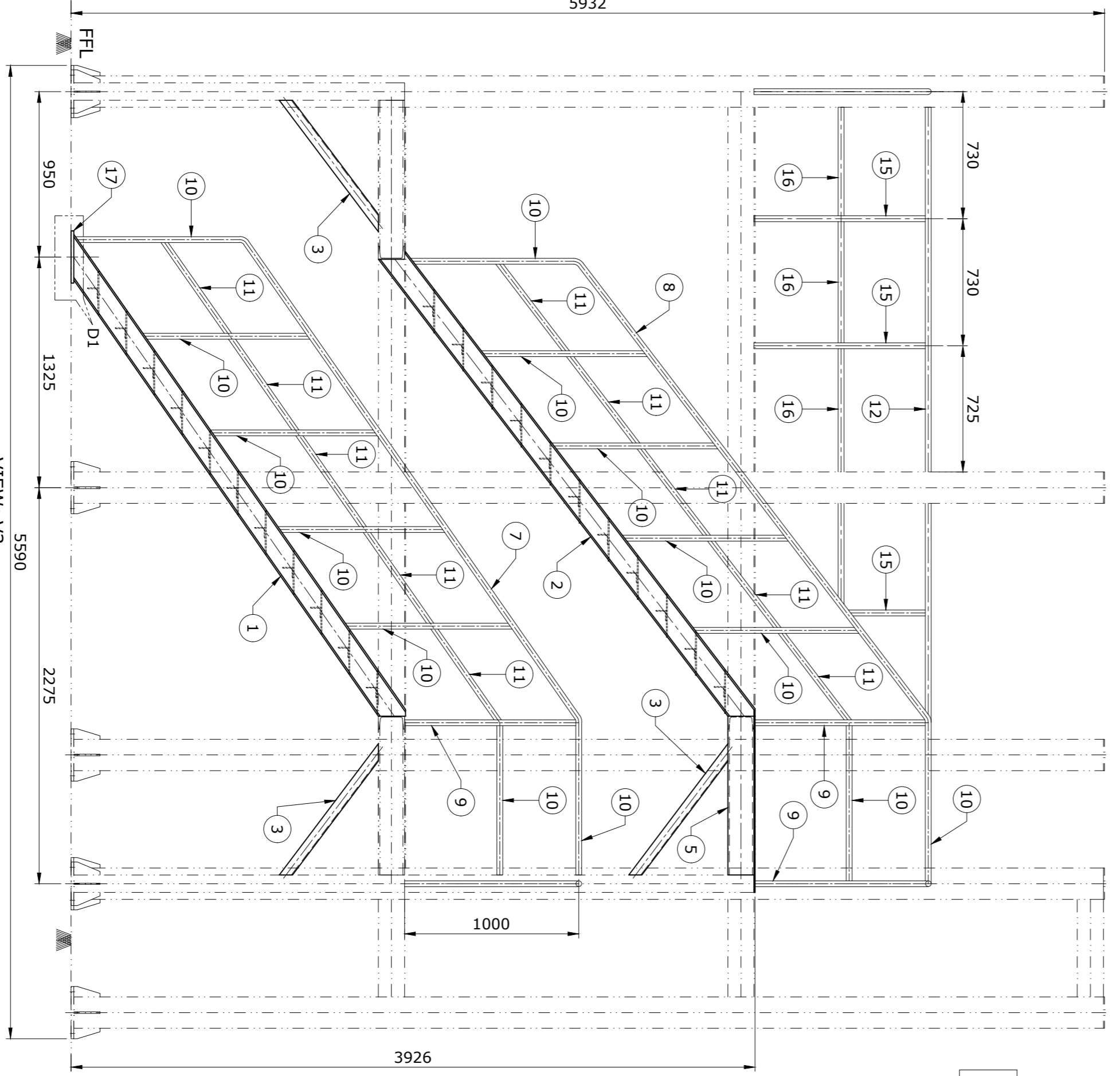
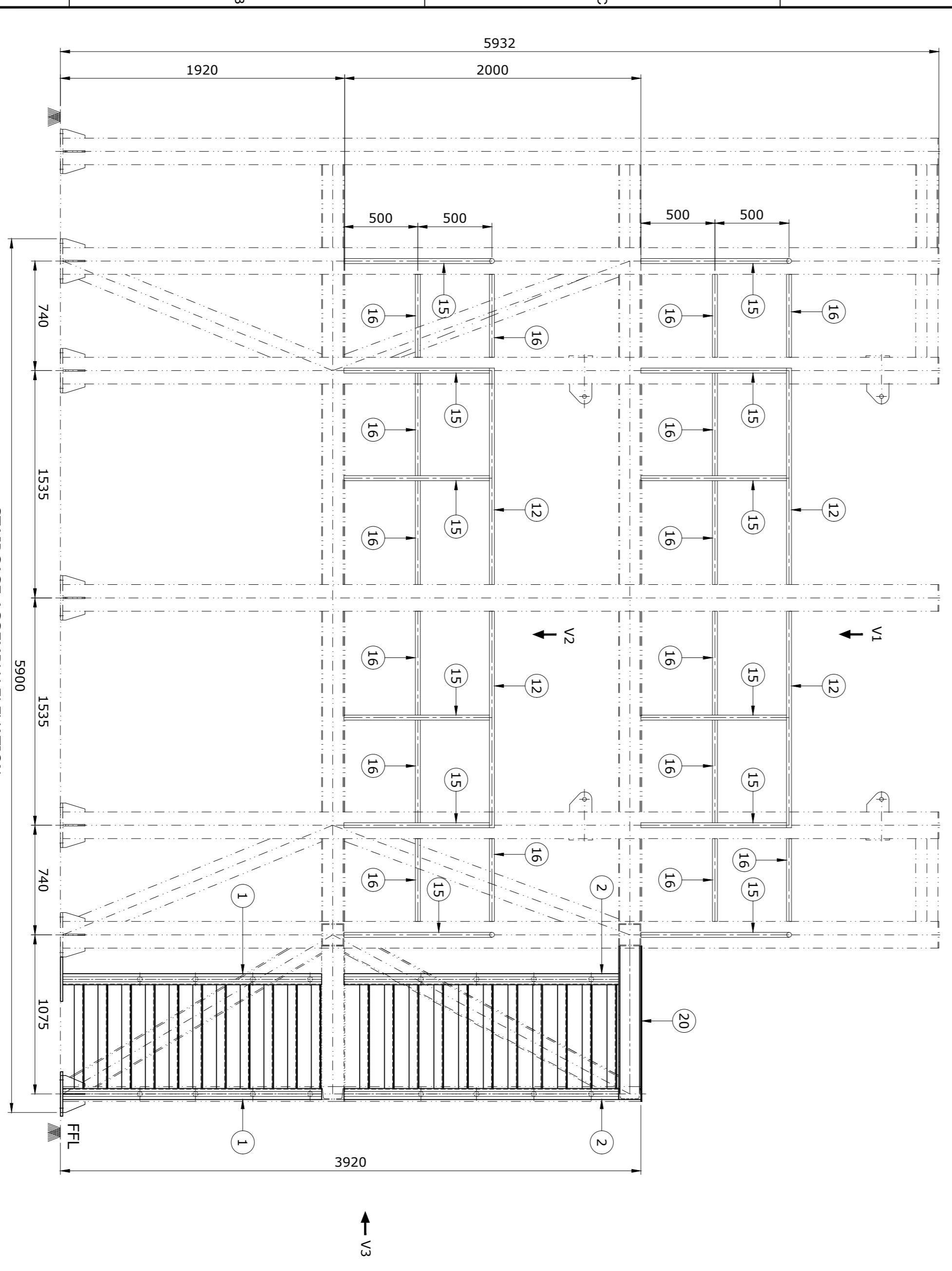
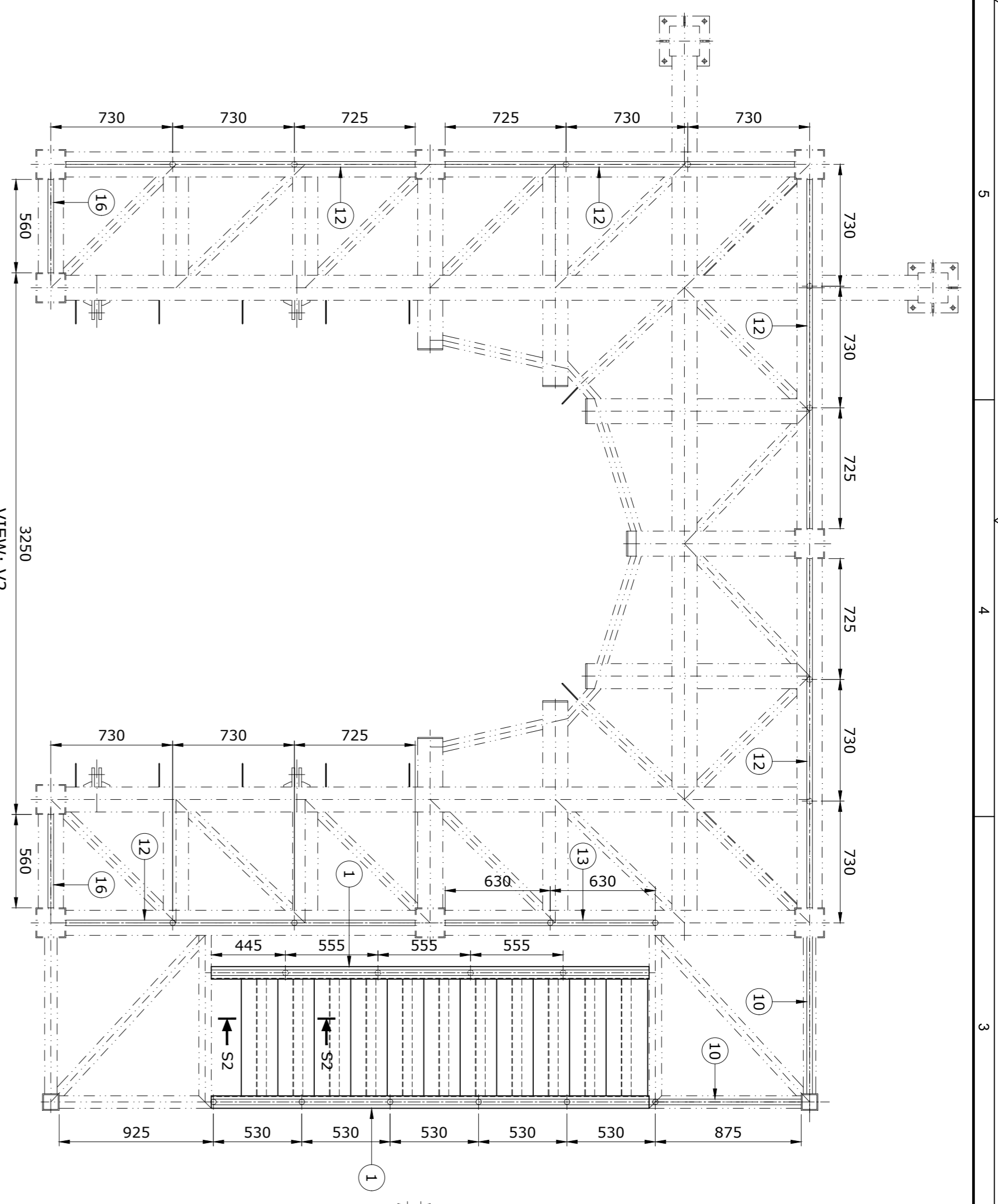
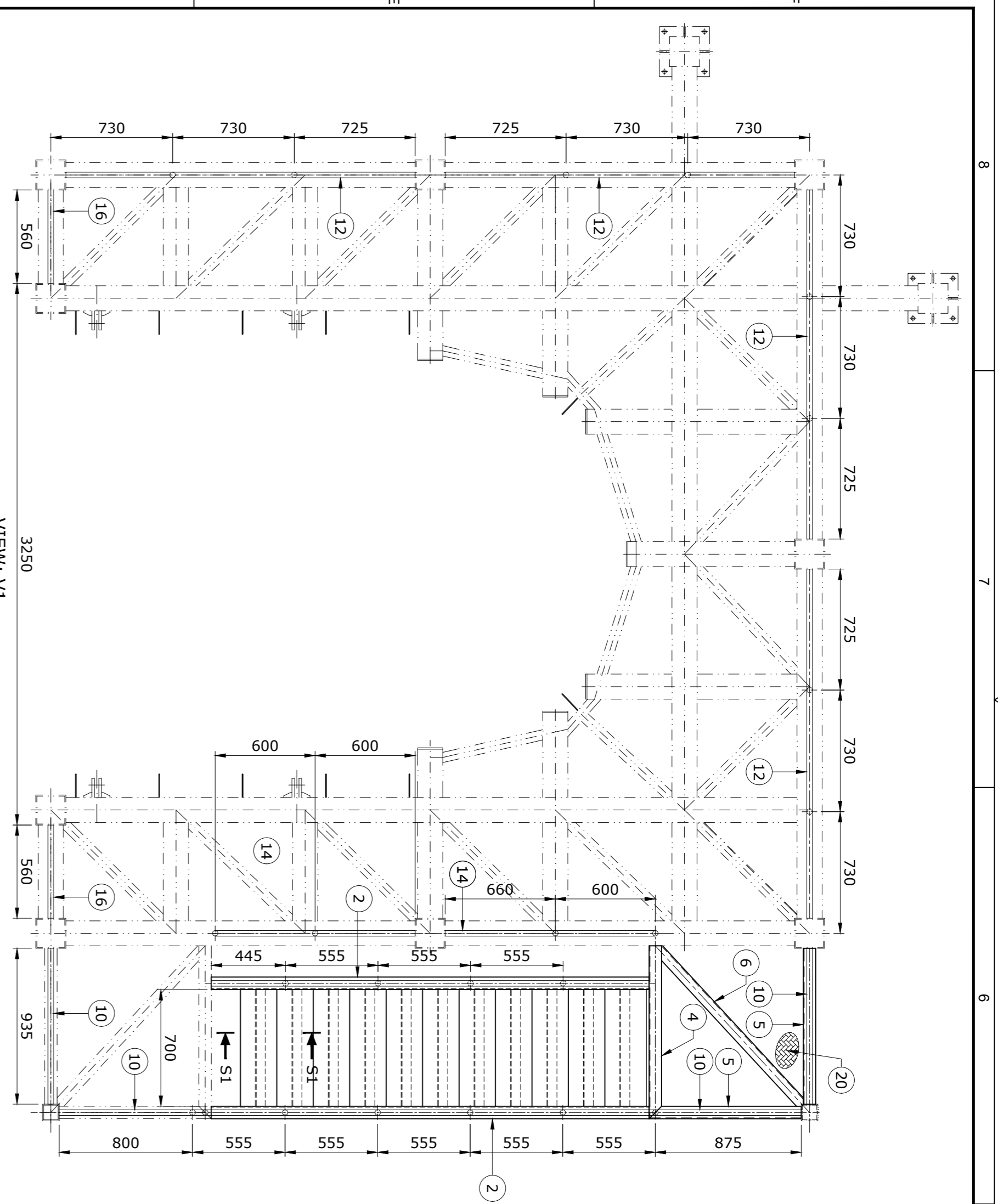
SECTION: S215

SECTION: S216

SECTION: S217

SECTION: S218

SECTION: S219



FOR DISCUSSION PURPOSE ONLY

TOTAL WEIGHT: 1072 Kg(Approx)

SNO	DESCRIPTION	MATERIAL	QTY	MASS	REMARKS
1	ISMC150-3330Lg	IS-808	2	112	
2	ISMC150-3185Lg	IS-808	2	107	
3	ISMC150-1135Lg	IS-808	3	57	
4	ISMC150-1040Lg	IS-808	1	17	
5	ISMC150-935Lg	IS-808	2	31	
6	60 x 60 x 5THK - 1245Lg	IS-808	1	6	
7	25NB PIPE OD33.7xWALL Thk4mm- 3350Lg	IS-1161	2	20	
8	25NB PIPE OD33.7xWALL Thk4mm- 2000Lg	IS-1161	2	19	
9	25NB PIPE OD33.7xWALL Thk4mm- 1000Lg	IS-1161	3	9	
10	25NB PIPE OD33.7xWALL Thk4mm- 945Lg	IS-1161	28	78	
11	25NB PIPE OD33.7xWALL Thk4mm- 635Lg	IS-1161	20	37	
12	25NB PIPE OD33.7xWALL Thk4mm- 2095Lg	IS-1161	9	55	
13	25NB PIPE OD33.7xWALL Thk4mm- 1260Lg	IS-1161	1	4	
14	25NB PIPE OD33.7xWALL Thk4mm- 1900Lg	IS-1161	2	11	
15	25NB PIPE OD33.7xWALL Thk4mm- 985Lg	IS-1161	25	72	
16	25NB PIPE OD33.7xWALL Thk4mm- 700Lg	IS-1161	46	94	
17	PLATE 300 x 300 x 16THK	IS-2062 E250 Gr-B	2	23	
18	PLATE 700 x 250 x 6THK	IS-2062 E250 Gr-B	22	181	
19	ISA 65 x 65 x 6THK- 700Lg	IS-808	22	89	
20	CHQ.PLAIE 1050 x 1013 x 6THK	IS-2062 E250 Gr-B	1	50	SUITABLY CUT&WELD

STAIRCASE ASSEMBLY ELEVATION

SCEND

SHAR CENTRAL DESIGNS  
 STAIR CASE & HANDRAIL DETAILS  
 S22 MODULING TOWER, SIC PROJECT

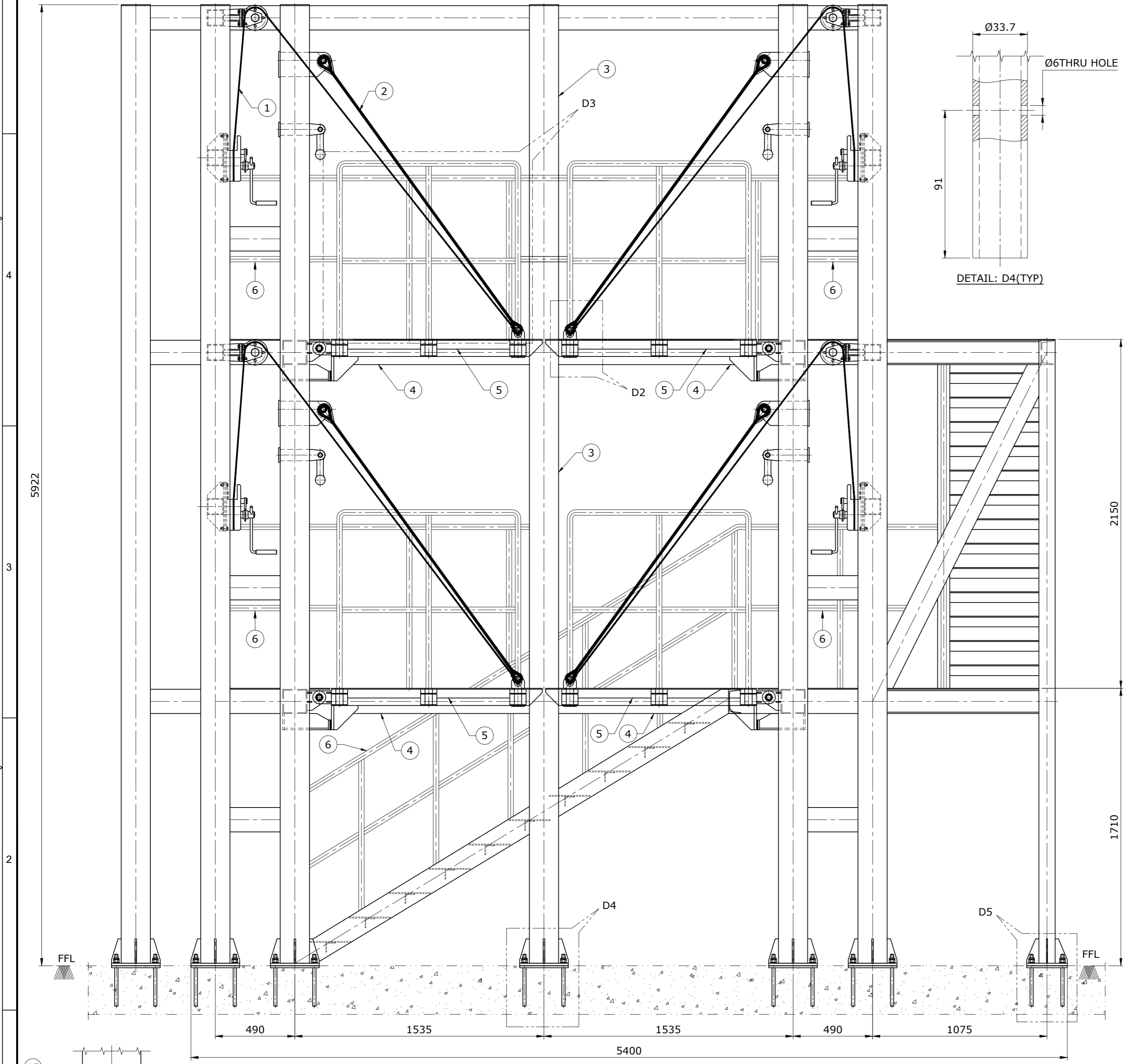
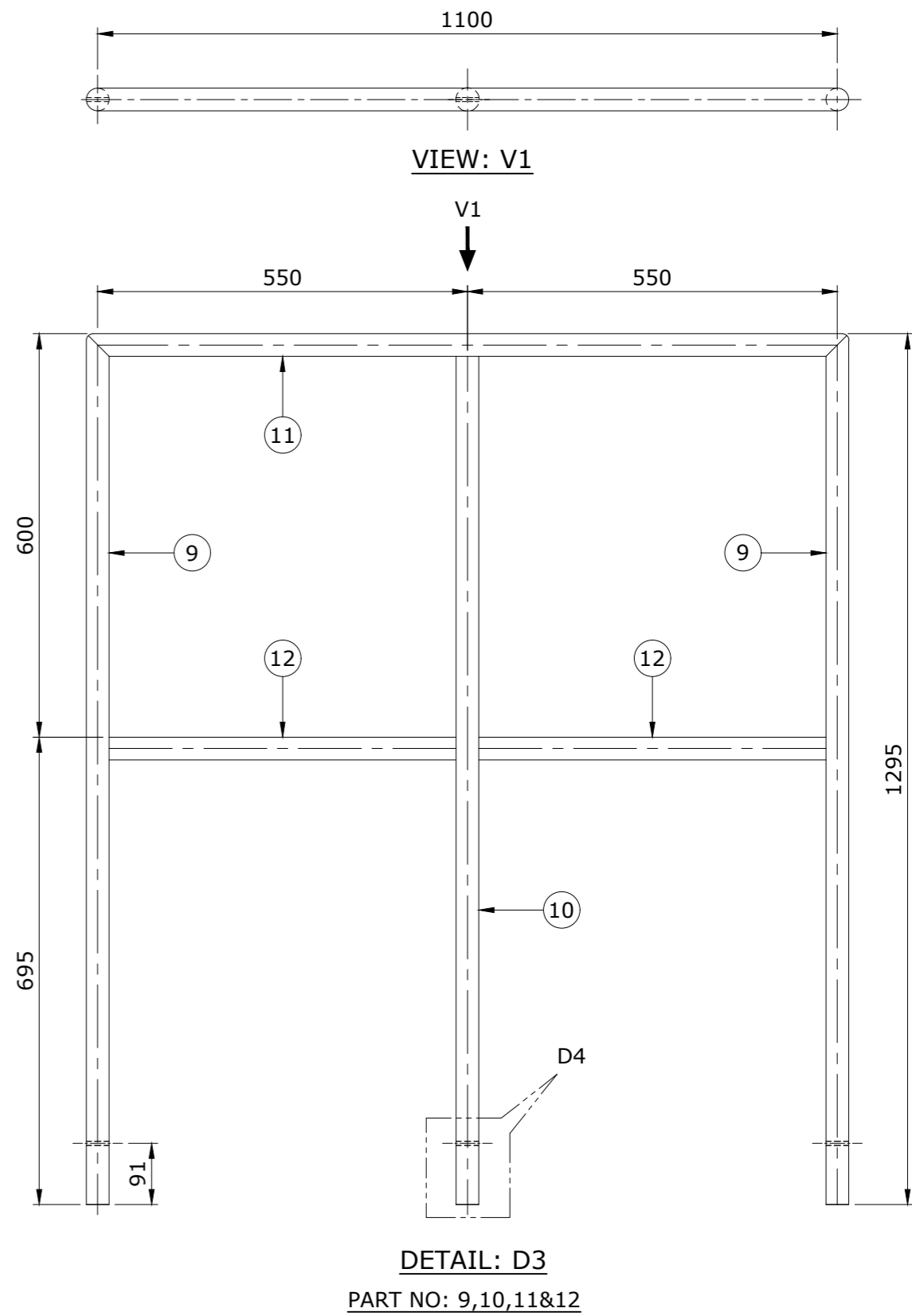
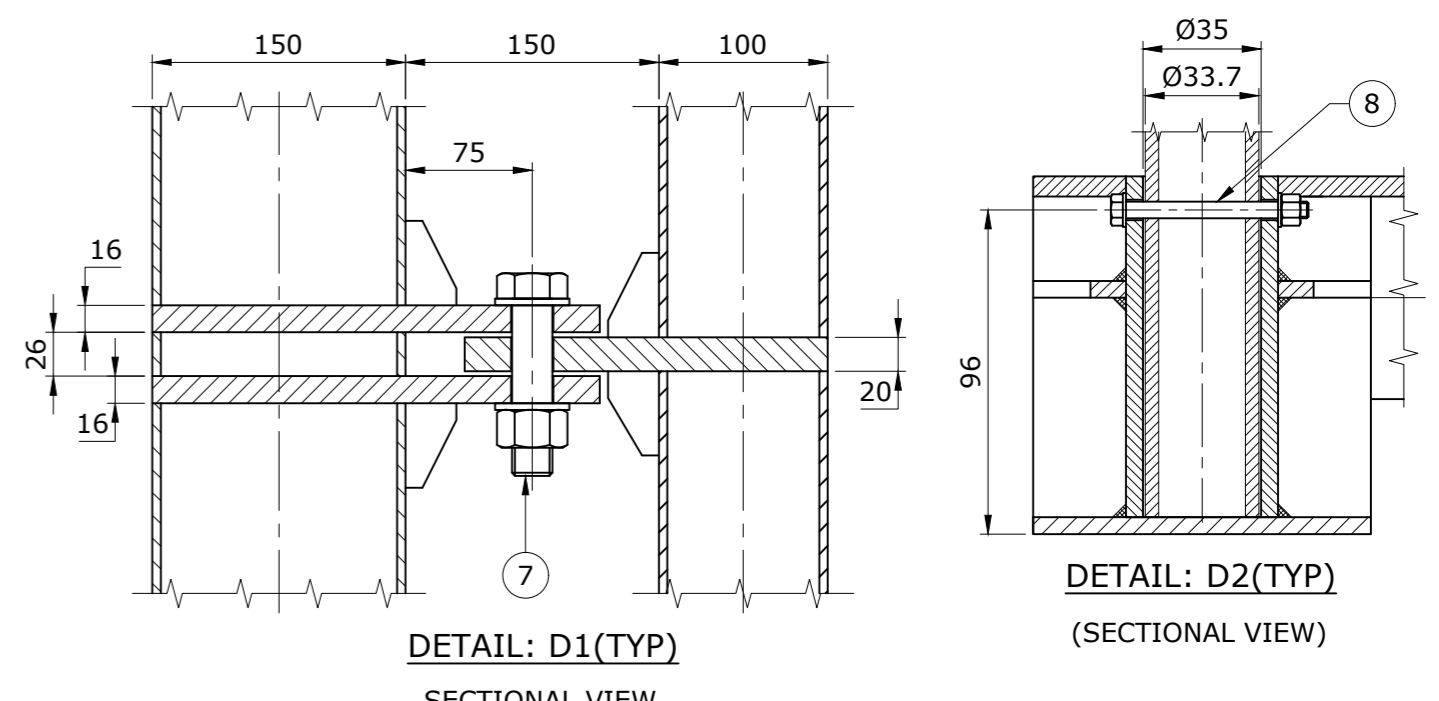
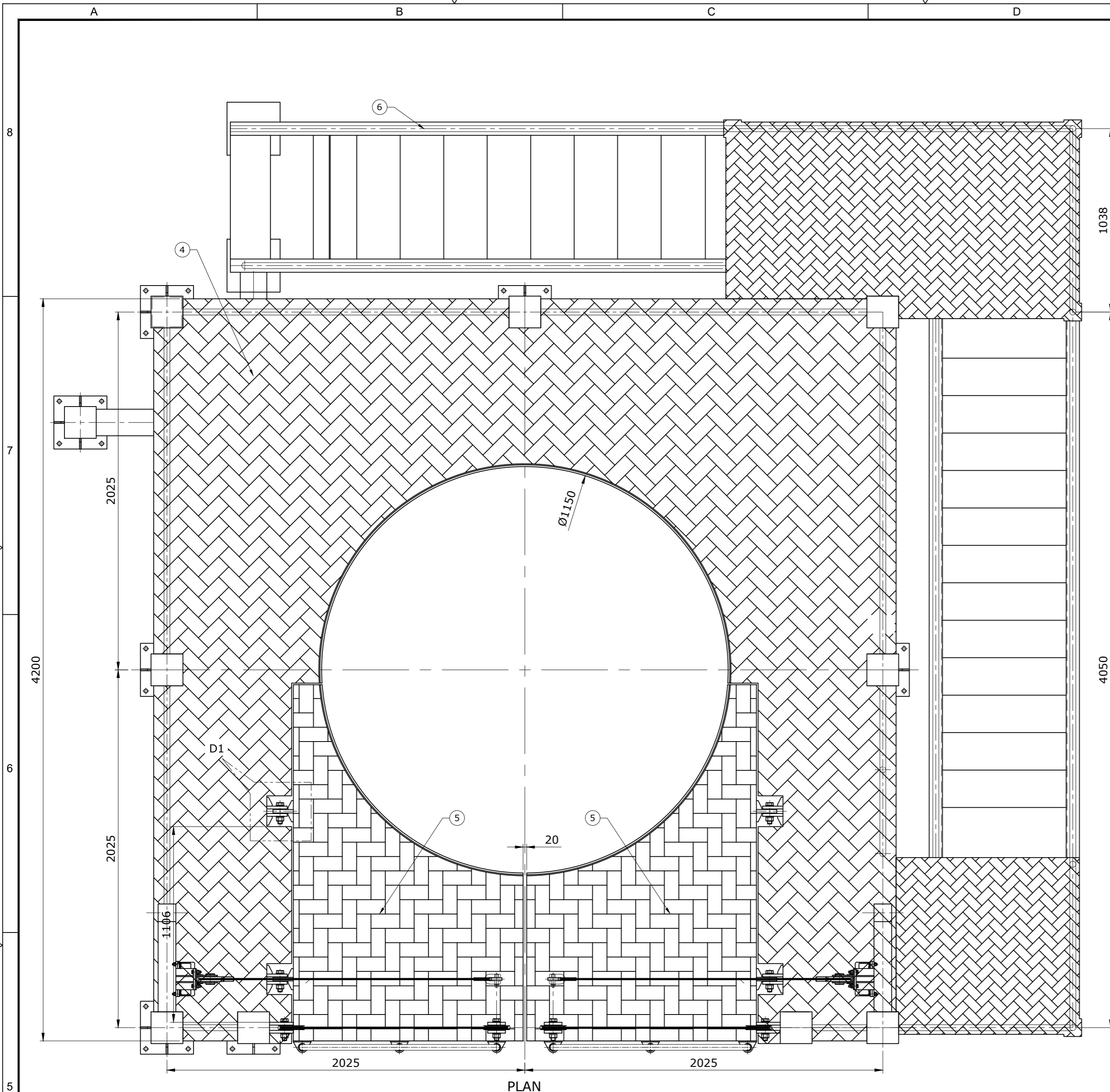
- NOTES:
1. ALL DIMENSIONS SHOWN ARE FINAL MACHINED DIMENSIONS.
  2. ALL THE WELDS ARE OF 4mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
  3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  4. CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

REV/NO	DESCRIPTION	ZONE	SIGN & DATE	REFERENCE

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		

DESIGNED	CHECKED	DATE

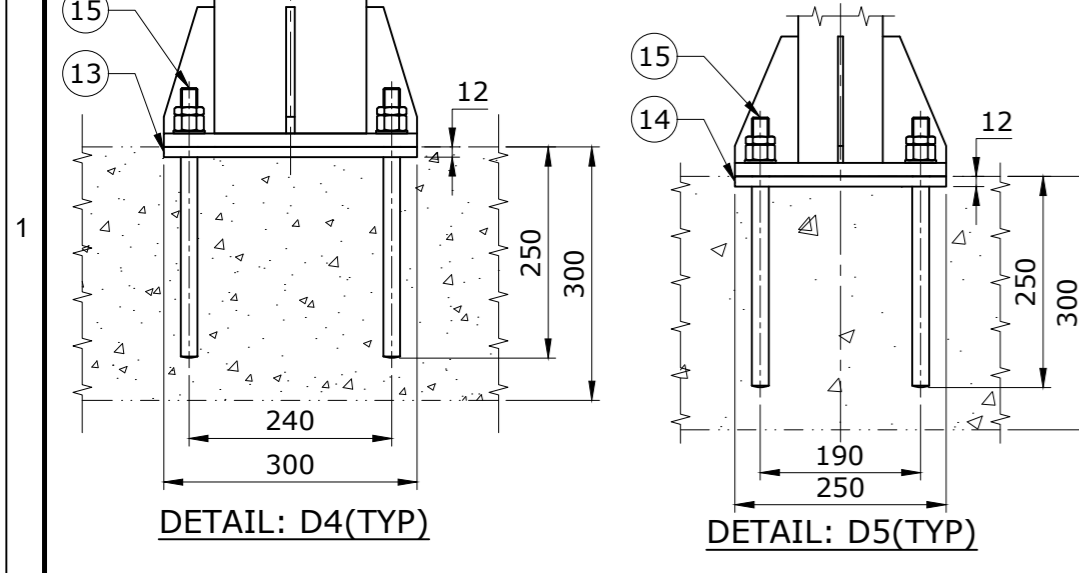
SCALE	DATE	REV. NO.	NO. OF SHEETS
1:10	10-5TR-12-5-83/A1	RD	7 OF 7



- NOTES:**
- ALL DIMENSIONS AND ELEVATIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH SHEETS 2 TO 7.
  - DESIGN, FABRICATION AND ERECTION, IN GENERAL, SHALL CONFORM TO IS :800 AND ALSO AS PER TECHNICAL SPECIFICATIONS.
  - WELDING IN GENERAL SHALL CONFORM TO IS : 816, IS:9595 AND ALSO AS PER TECHNICAL SPECIFICATIONS.
  - FABRICATION TOLERANCES SHALL BE AS IS:7215 AND AS PER TECHNICAL SPECIFICATIONS.
  - ALL WELDS SHALL BE FREE FORM DEFECTS LIKE BLOW HOLES, LACK OF PENETRATION, UNDER CUTTING, CRACKS ETC. ALL WELDS SHALL BE CLEANED OF SLAG OR FLUX AND SHOE SECTIONS, SMOOTHNESS OF WELD METAL, FEATHER EDGES WITHOUT OVERLAP AND FREEDOM FROM POROSITY.
  - ALL BUT WELDS SHALL BE COMPLETE PENETRATION BUTT WELDS.
  - INTERMITTENT WELD SHALL NOT BE PERMITTED UNLESS SPECIFIED IN THE DRAWING.
  - INSPECTION OF WELD SHALL BE AS PER TECHNICAL SPECIFICATIONS.
  - ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  - THE THICKNESS OF GUSSET PLATE SHALL NOT BE SMALLER THAN 8mm NOR SMALLER THAN THE THICKNESS OF MEMBERS CONNECTED UNLESS OTHERWISE SPECIFIED OF THE DRAWING.
  - PAINTING AS PER TECHNICAL SPECIFICATION/PURCHASE ORDER.
  - ANCHOR BOLTS SHOWN ARE INDICATIVE, USER HAS TO CONFIRM TYPE OF ANCHOR BOLT BASED ON THE AVAILABLE FLOOR THICKNESS.
  - LENGTH OF BRACING MEMBERS AND SIZE OF GUSSET PLATES SHALL BE CHECKED AND VERIFIED BY SHOP LAYOUT PRIOR TO FABRICATION.
  - CONTRACTOR SHALL TAKE EXTRA CARE TO CHECK THE STRAIGHTNESS OF ALL MEMBERS AND GET THEM INSPECTED/APPROVED BY ENGINEER BEFORE ERECTION.
  - PROPER PROVISION SHALL MADE BY CONTRACTOR WHILE ERECTING THE MEMBERS IN POSITION USING TEMPORARY BRACING/TIES/STIFFENER TO WITH STAND ALL THE STRESSES DEVELOPED DURING THE ERECTION.
  - CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION/MACHINING.

SWL: 200kg/m<sup>2</sup> TOTAL WEIGHT 8670 Kg(Approx).

S.NO	DESCRIPTION	MATERIAL	QTY	MASS	REMARKS
15	M20 ANCHORING BOLT WITH NUT, LOCK NUT & WASHER-320Lg	IS:1367	52 sets	-	PROPERTY CLASS: 8.8
14	EMBEDMENT PLATE- 2 250 x 250 x 12Thk	IS:2062 E250 Gr:B	4	24	
13	EMBEDMENT PLATE- 1 300 x 300 x 12Thk	IS:2062 E250 Gr:B	9	76	
12	25NB PIPE OD33.7xWALL Thk4mm- 520Lg	IS:1161	8	12	
11	25NB PIPE OD33.7xWALL Thk4mm- 1135Lg	IS:1161	4	13	
10	25NB PIPE OD33.7xWALL Thk4mm- 1265Lg	IS:1161	4	15	
9	25NB PIPE OD33.7xWALL Thk4mm- 1295Lg	IS:1161	8	30	
8	M5 HEX. BOLT AND NUT WITH TWO WASHERS- 55Lg	IS:1364	12	-	PROPERTY CLASS:8.8
7	M24 HEX. BOLT AND NUT WITH TWO WASHERS- 105Lg	IS:1364	8 sets	-	PROPERTY CLASS:8.8
6	STAIR CASE & HANDRAIL DETAILS	-	1	1006	REF SHEET NO: 7 OF 7
5	FOLDING PLATFORM DETAILS	-	4	924	REF SHEET NO: 6 OF 7
4	FIXED PLATFORM STRUCTURAL DETAILS	-	2	3330	REF SHEET NO: 5 OF 7
3	COLUMN LAYOUT	-	1	3011	REF SHEET NO: 4 OF 7
2	DETAILS OF WINCH MECHANISM FOR FOLDING PLATFORM	-	1	200	REF SHEET NO: 3 OF 7
1	FOLDING PLATFORM WITH SAFETY ROPE DETAILS	-	1	28	REF SHEET NO: 2 OF 7



STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		

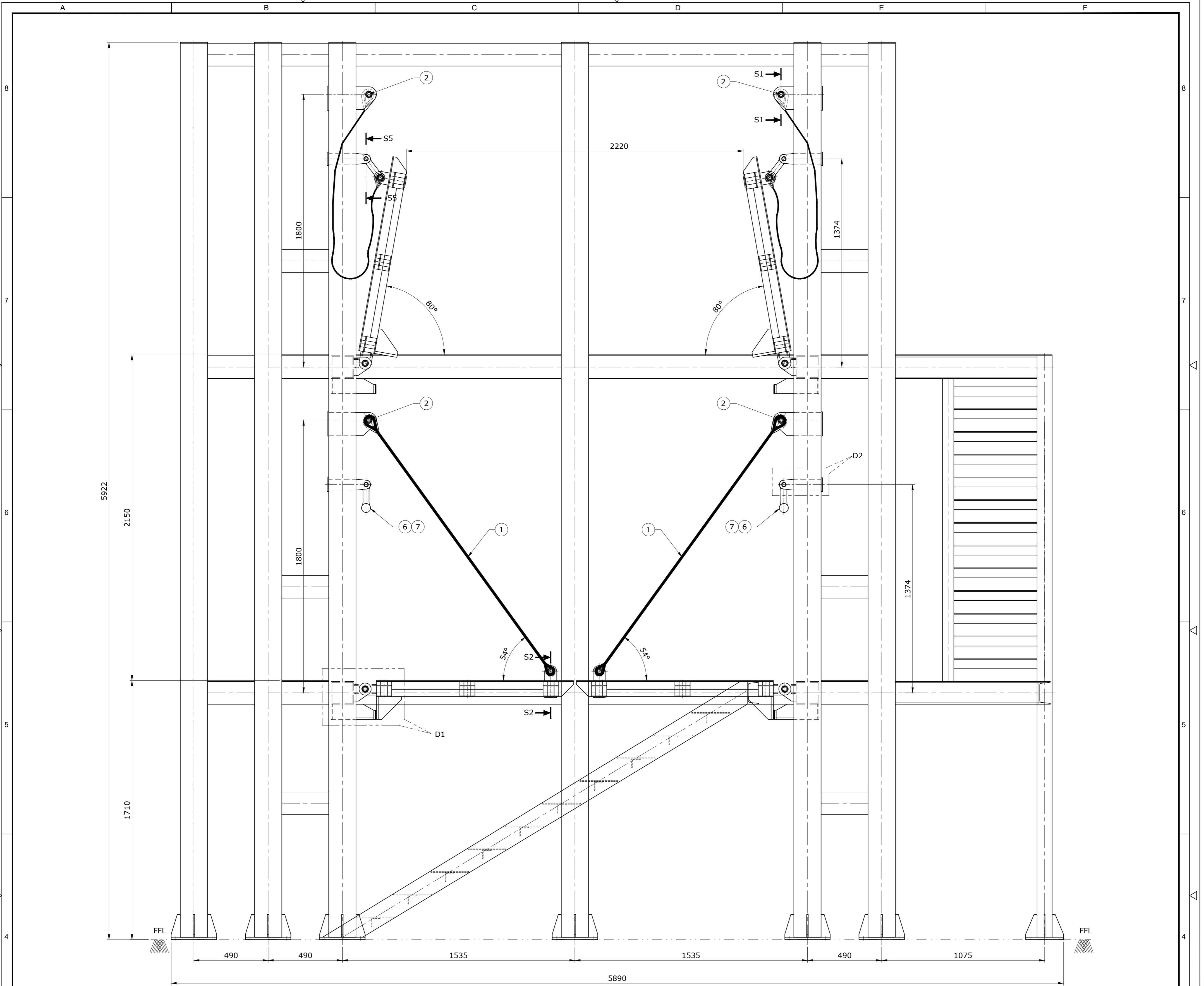
DO NOT SCALE THE DRAWING  
 ASK IF IN DOUBT  
 UNLESS OTHERWISE SPECIFIED,  
 ALL DIMENSIONS ARE IN MILLIMETERS  
 REMOVE SHARP EDGES & BURRS  
 CHAMFER 1 m.m. X 45°  
 MACHINING FINISH IN MICRONS :-  
 ▽ 8 - 25 ▽▽ 1.6 - 8  
 ▽▽▽ 0.025 - 1.6 ▽▽▽▽ < 0.025

DIAMETERS & LENGTHS UPTO & INCL. 6-30		LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.	
6 - 30 ±0.2	6 - 30 ±0.3	1 - 6 + 1°-00'	6 - 30 + 0°-30'
120 - 315 ±0.5	315 - 1000 ±0.8	30-120 + 0°-20'	120-400 + 0°-10'
1000 - 2000 ±1.2	2000 - 4000 ±2.0		
4000 & ABOVE ±3.0			

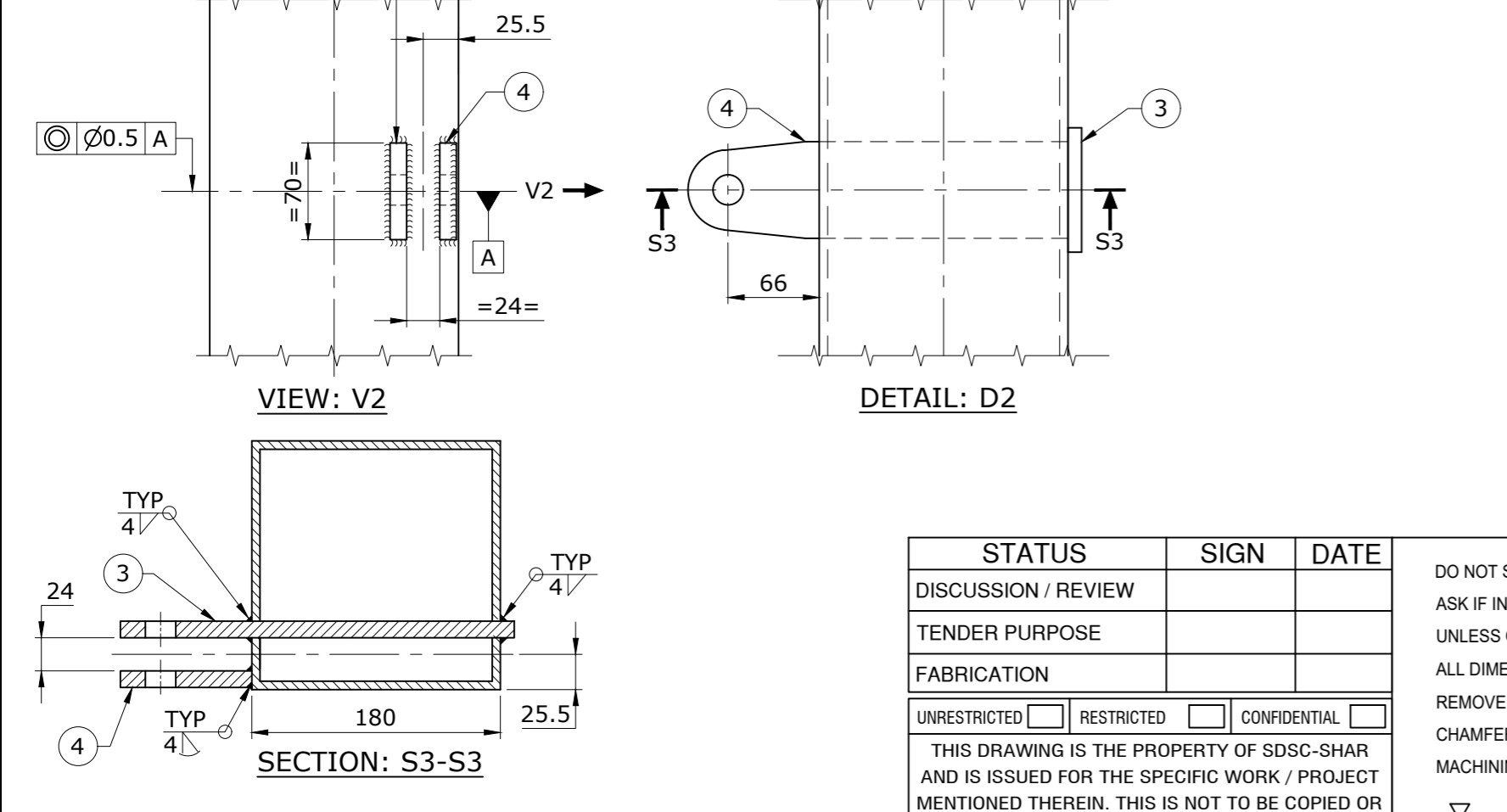
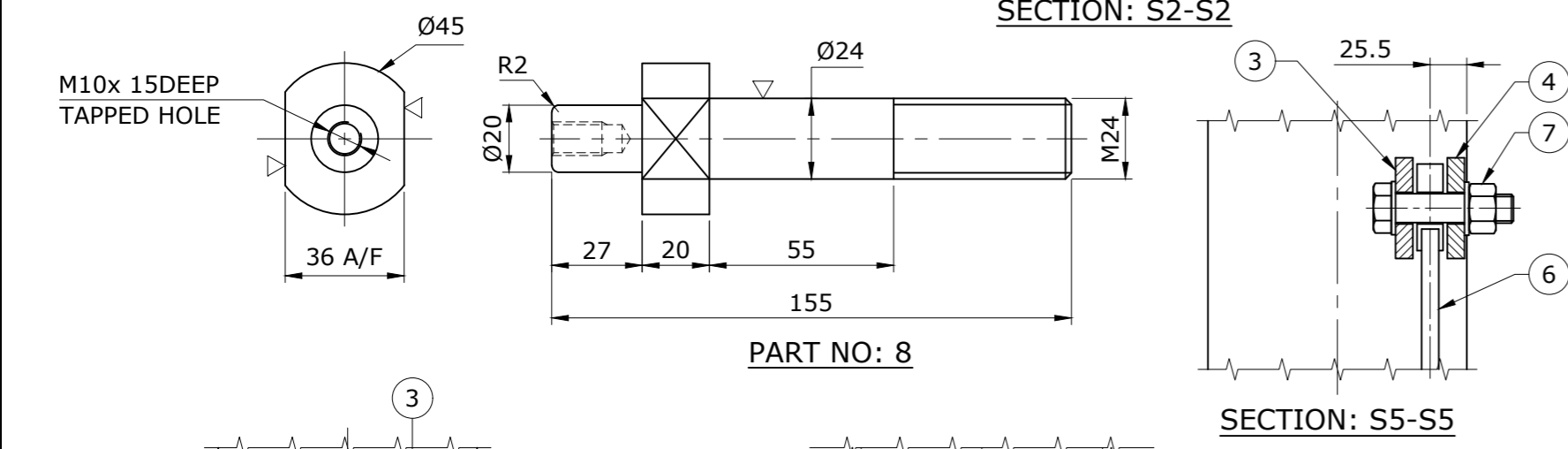
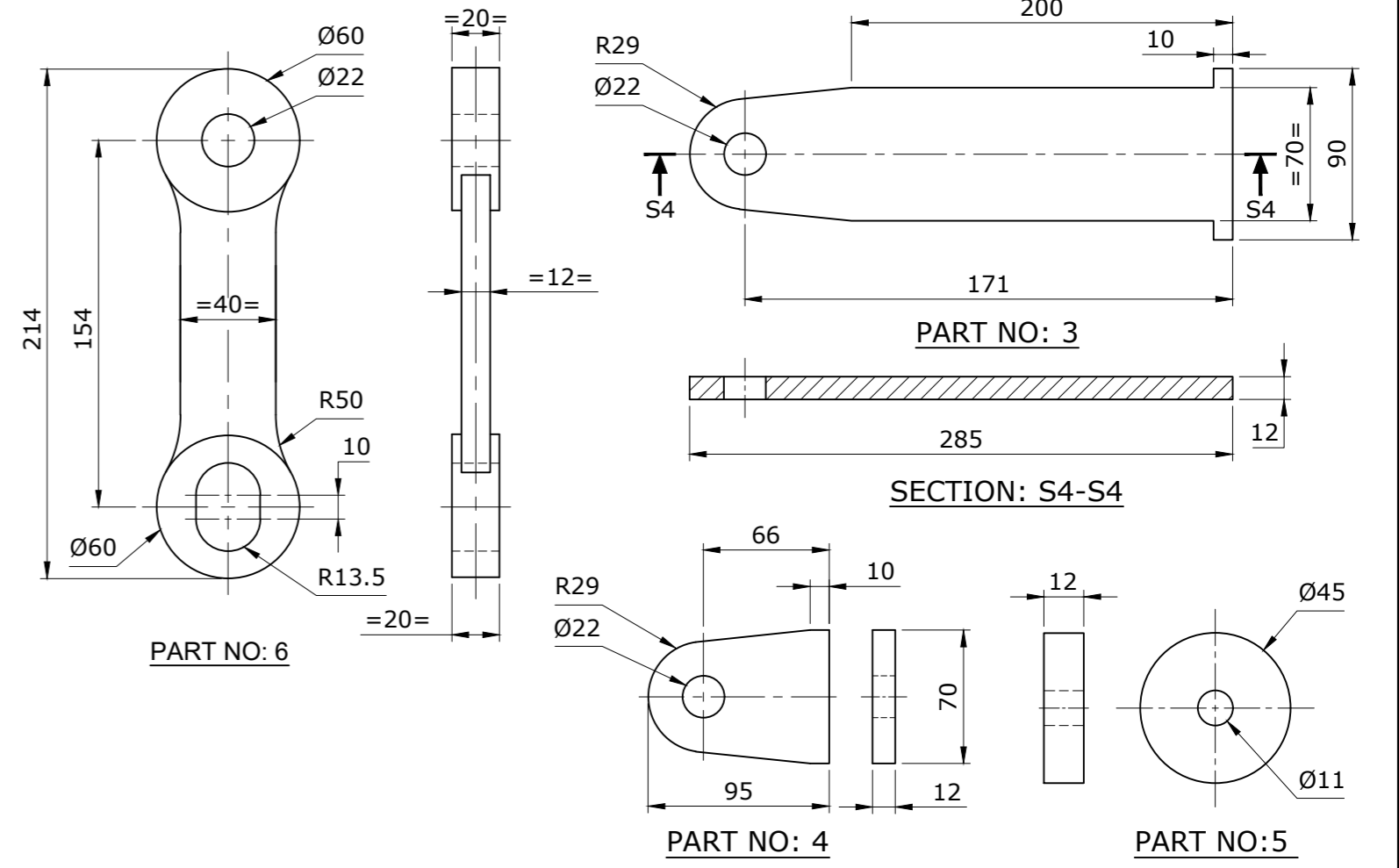
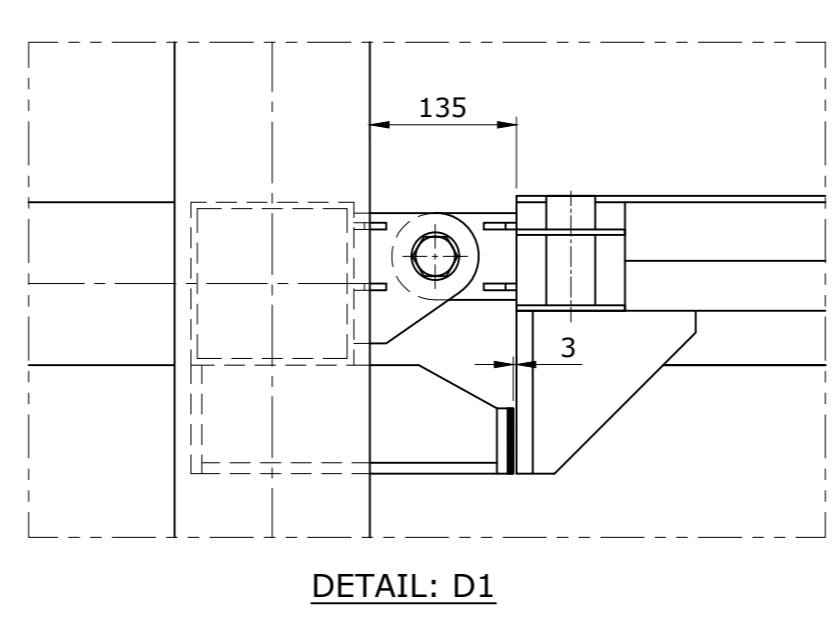
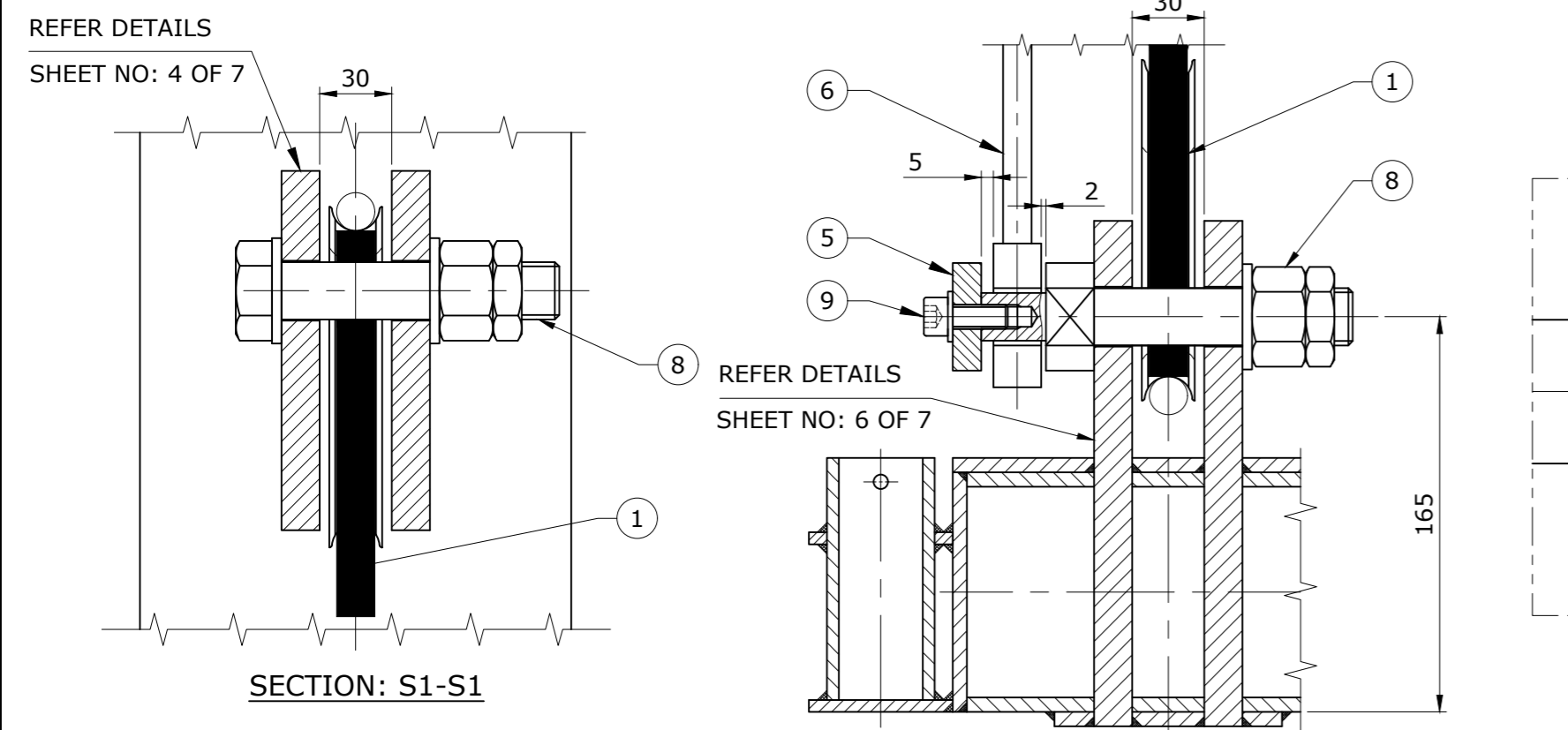
**SCEND**  
 शार केंद्रीय अभिकल्पनाएं  
 SHAR CENTRAL DESIGNS

श्रीरंक / TITLE: GENERAL ASSEMBLY OF SS3 MODULING TOWER, SLC PROJECT  
 भारत सरकार GOVERNMENT OF INDIA  
 भारतीय अंतरिक्ष अनुसंधान संगठन INDIAN SPACE RESEARCH ORGANISATION  
 सतीश धवन अंतरिक्ष केंद्र शार SATISH DHAWAN SPACE CENTRE SHAR,  
 श्रीहरीकोटा SRIHARIKOTA

पैमाना / SCALE: आरेखन क्र. / DRG. NO.: 10-STR-12-5-84/A1 SHEET No.: 1 OF 7  
 कंप. फाइल नं.: AJ-21 REV. No.: R0



SAFETY ROPE ASSEMBLY (ELEVATION)



- NOTES:**
1. ALL DIMENSIONS SHOWN ARE FINAL MACHINED DIMENSIONS
  2. ALL THE WELDS ARE OF 4 mm SIZE FILLET UNLESS OTHERWISE SPECIFIED
  3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  4. PART NO: 1 IS THE MAIN LOAD BEARING MEMBER WHEN PLATFORM IS IN WORKING CONDITION.
  5. LOAD TESTING FOR PLATFORMS SHALL BE CARRIED OUT AS PER APPROVED T&E SCHEME AND CLEARANCE SHALL BE TAKEN FROM THE DESIGNER BEFORE LOAD TEST.
  6. CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

- 1. SPECIFICATIONS OF WIRE ROPE SLING:**
1. WIRE ROPE SHALL BE AS PER IS : 2266 -2002 WITH A NOMINAL DIA OF 16mm WITH STEEL CORE CORRESPONDING TO 1960 TENSILE DESIGNATION AND A BREAKING LOAD OF 179 kN AND CONSTRUCTION OF 6x36 CWR(14-7+7-1)
  2. OPEN TYPE THIMBLE SHALL BE AS PER IS:2315-2023 CORRESPONDING TO A NOMINAL ROPE SIZE OF 16 mm AT BOTH ENDS. DOUBLE FERRULE SHALL BE PROVIDED.
  3. THIMBLE DIMENSIONS AND MATERIAL SHALL BE VERIFIED BY THE USER AS PER IS2315 BEFORE MAKING SLING AND IT SHALL BE DOCUMENTED.
  4. WIRE ROPE SHALL BE PRE-STRETCHED BEFORE FORMING INTO A SLING.

FOR DISCUSSION PURPOSE ONLY

TOTAL WEIGHT 28 Kg(Approx).					
S.NO	DESCRIPTION	MATERIAL	QTY	MASS	REMARKS
9	M10 HEX. SOCKET HEAD BOLT WITH WASHER- 25Lg	IS:1364	4	-	PROPERTY CLASS:8.8
8	Ø45 PIN, M24 HEX NUT & LOCK NUT WITH WASHER- 155Lg	En24-T	4	8	PROPERTY CLASS:8.8
7	M20 HEX.BOLT AND NUT WITH TWO WASHERS- 85Lg	IS:1364	4	-	PROPERTY CLASS:8.8
6	LINK PLATE 214 x 60 X 20 Thk	IS:2062 E250 Gr:B	4	8	
5	STOPPER PLATE ØD45 x ID11 x 12Thk	IS:2062 E250 Gr:B	4	1	
4	BRACKET FOR LINK PLATE- 2 90 x 70 x 12 Thk	IS:2062 E250 Gr:B	4	2	
3	BRACKET FOR LINK PLATE- 1 285 x 90 x 12 Thk	IS:2062 E250 Gr:B	4	10	
2	M24 HEX.BOLT AND NUT & LOCK NUT WITH TWO WASHERS- 120Lg	IS:1364	4	-	PROPERTY CLASS:8.8
1	WIRE ROPE SLING- 2.5m Lg	IS:2266	4	-	REFER SPECIFICATION

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		

DO NOT SCALE THE DRAWING  
 ASK IF IN DOUBT  
 UNLESS OTHERWISE SPECIFIED,  
 ALL DIMENSIONS ARE IN MILLIMETERS  
 REMOVE SHARP EDGES & BURRS  
 CHAMFER 1 mm. X 45°  
 MACHINING FINISH IN MICRONS :-  
 ∇ 8 - 25    ∇∇ 1.6 - 8  
 ∇∇∇ 0.025 - 1.6    ∇∇∇∇ < 0.025

DEVIATION FOR NON TOLERANCE DIMENSIONS IS:2102 (PART-1)-1993	
DIAMETERS & LENGTHS UPTO & INCL. 6±0.1	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.
6 - 30 ±0.2	6 - 30 ±0.30
30 - 120 ±0.3	30 - 120 ±0.40
120 - 315 ±0.5	315 - 1000 ±0.8
315 - 1000 ±0.8	1000 - 2000 ±1.2
2000 - 4000 ±2.0	4000 & ABOVE ±3.0

**SCEND**  
 शार केंद्रीय अभिकल्पनाएं  
 SHAR CENTRAL DESIGNS

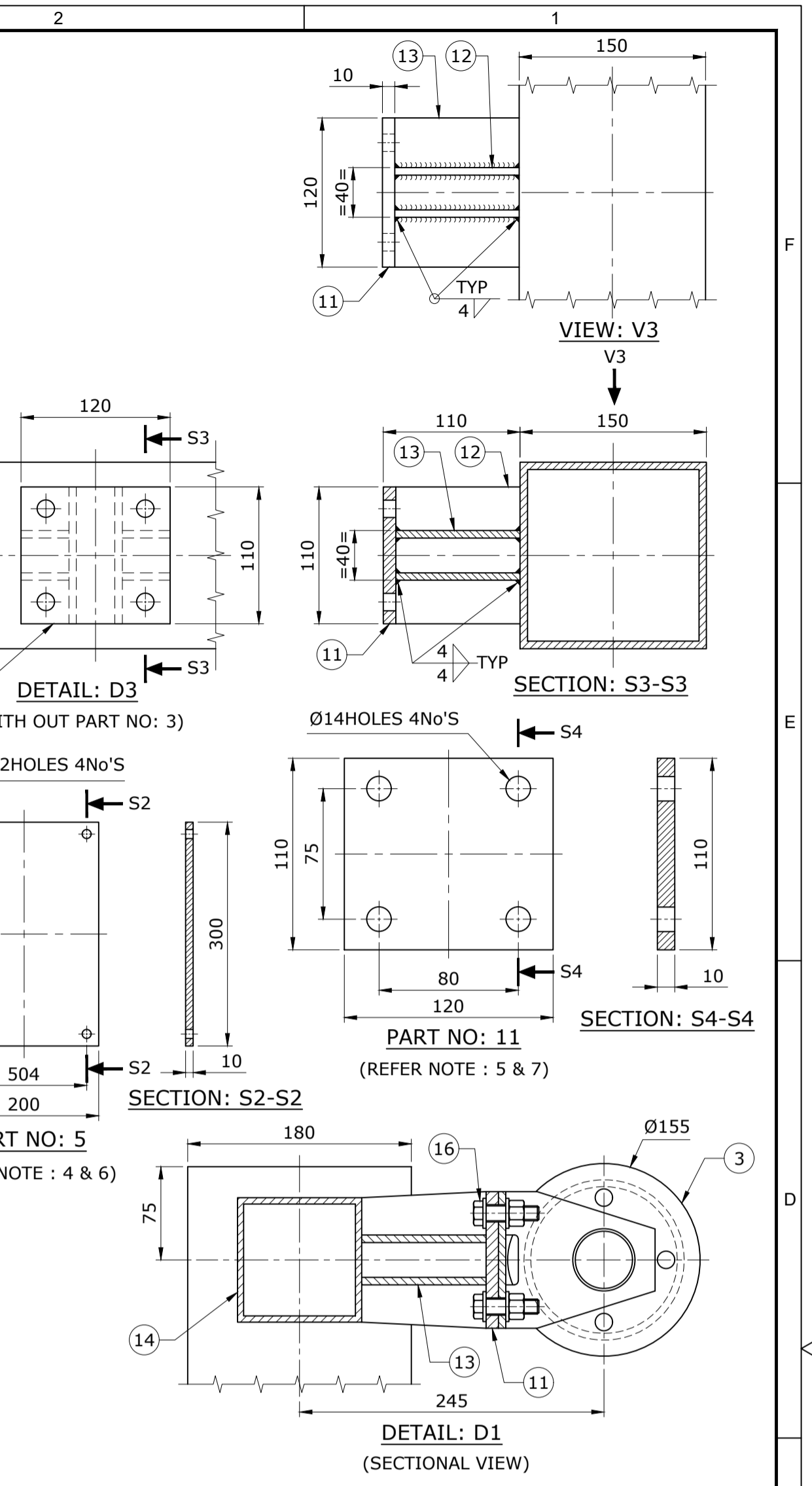
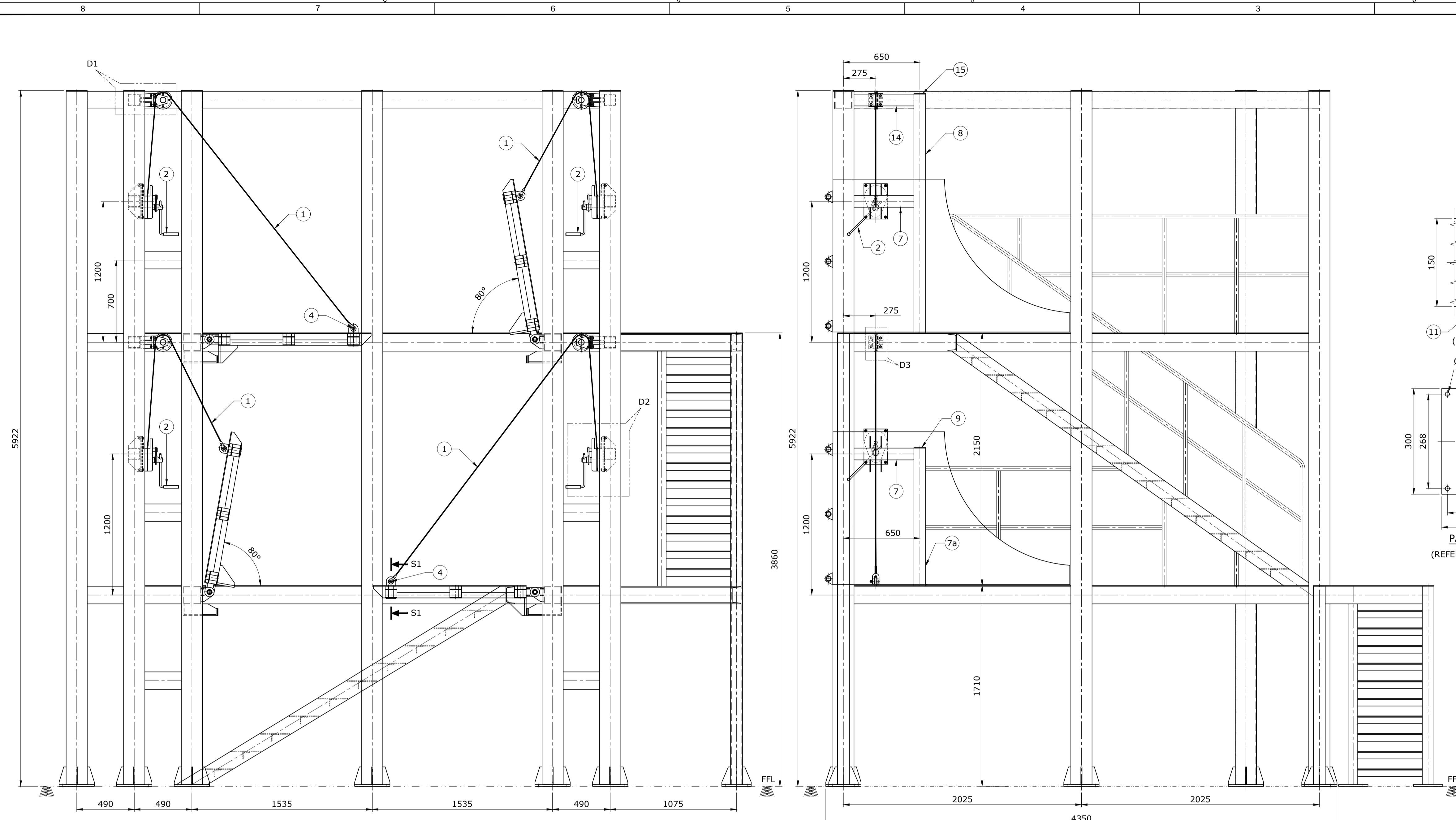
शीर्षक / TITLE: FOLDING PLATFORM WITH SAFETY ROPE DETAILS  
 SS3 MODULING TOWER, SLC PROJECT

DESIGNED: KAMAL S  
 DES.CHKD: M S R  
 DRAWN: SREENU P  
 DRG.CHKD: V V R  
 REVIEWED: P.S.SAI  
 APPROVED: KUNESH KUMAR

भारत सरकार GOVERNMENT OF INDIA  
 भारतीय अंतरिक्ष अनुसंधान संगठन INDIAN SPACE RESEARCH ORGANISATION  
 सतीश धवन अंतरिक्ष केंद्र शार SATISH DHAWAN SPACE CENTRE SHAR,  
 श्रीहरीकोटा SRIHARIKOTA.

पैमाना / SCALE: आरेखन क्र. / DRG. NO.: 10-STR-12-5-84/A1  
 COMP. FILE NO.: AJ-21

प्रक्षेप / PROJECTION  
 SHEET No.: 2 OF 7

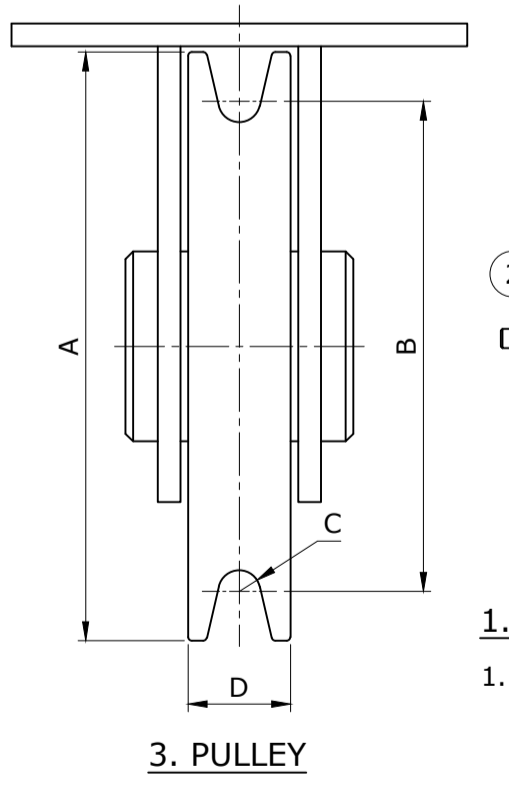


WINCH ASSEMBLY  
(WITH OUT HAND RAIL)

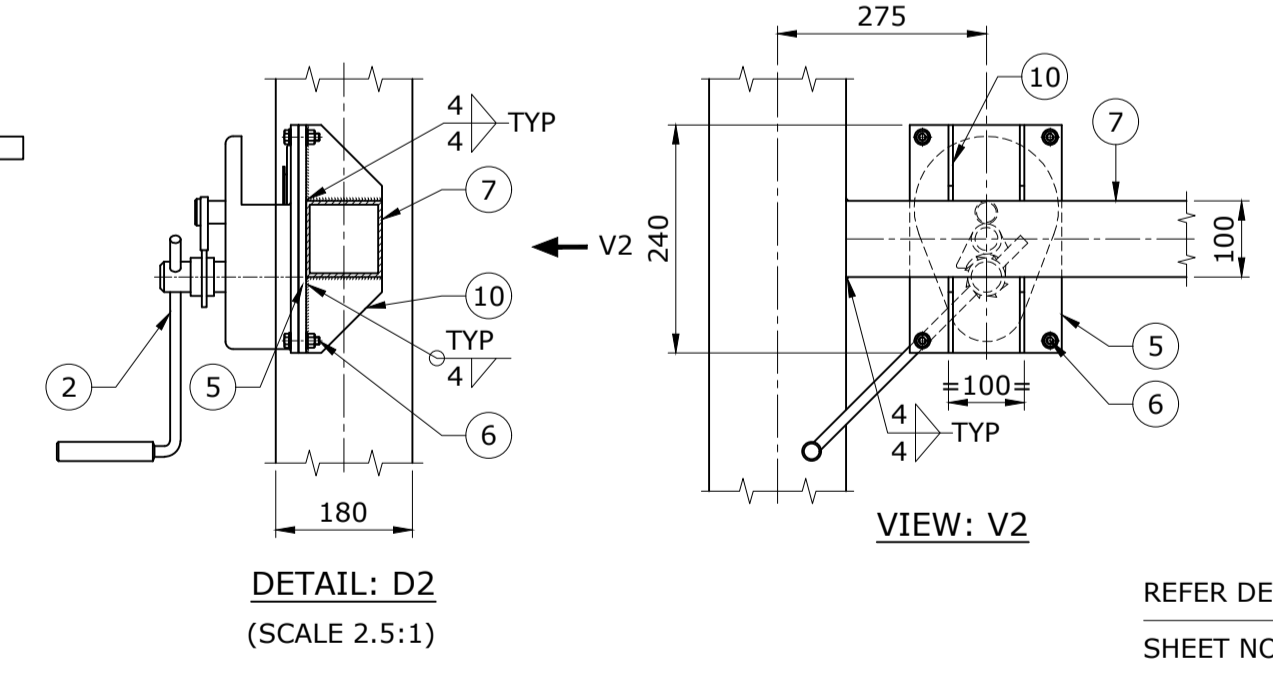
VIEW: V1

**2. WINCH SPECIFICATIONS**

MAKE & MODEL	VINCA EQUIPOS - TL600 \ REMA - TL.6 \ PFAFF - MWS600 \ EQUIVALENT
TYPE:	MANUALLY OPERATED SPUR GEAR WINCH WITH LOAD PRESSURE BRAKE
WINCH CAPACITY:	1ST LAYER - 600kg LAST LAYER - 320kg
LIFTING EFFORT:	10kg
DELIVERY TYPE:	STANDARD

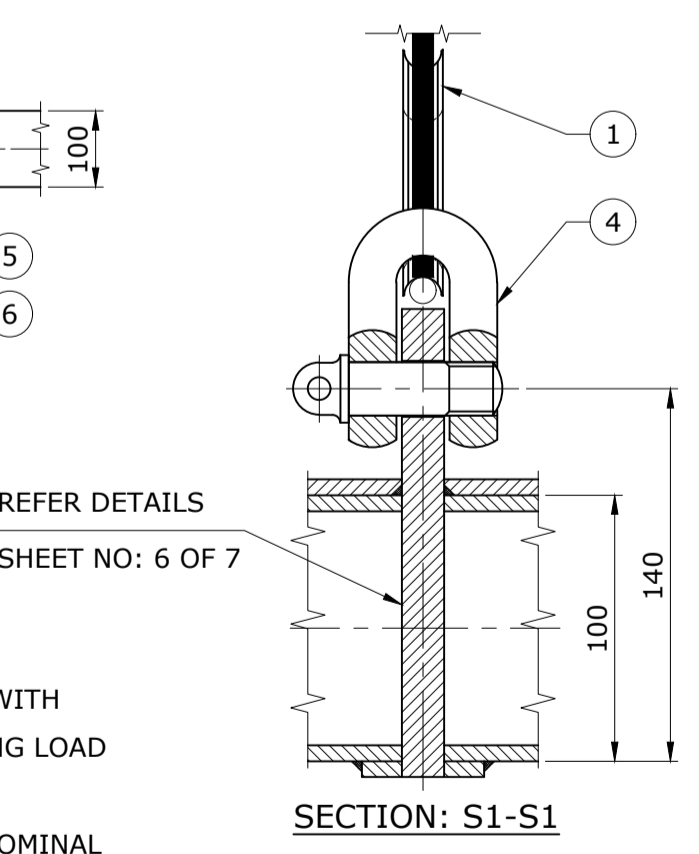


3. PULLEY



DETAIL: D2  
(SCALE 2.5:1)

VIEW: V2



SECTION: S1-S1

**NOTES:**

1. ALL DIMENSIONS SHOWN ARE FINAL MACHINED DIMENSIONS
2. ALL THE WELDS ARE OF 4 mm SIZE FILLET UNLESS OTHERWISE SPECIFIED
3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
4. INTERFACE ON PART NO: 5 SHOULD BE TRANSFERRED FROM PART NO: 2, INTER FACE SHOWN HERE IS FOR INDICATIVE PURPOSE ONLY. SIMILARLY DIMENSIONS OF PLATE NEED TO CHOSEN ACCORDING TO INTERFACE REQUIRED.
5. INTERFACE ON PART NO: 11 SHOULD BE TRANSFERRED FROM PART NO: 3, INTER FACE SHOWN HERE IS FOR INDICATIVE PURPOSE ONLY. SIMILARLY DIMENSIONS OF PLATE NEED TO CHOSEN ACCORDING TO INTERFACE REQUIRED.
6. PART NO: 6 HAS TO BE BROUGHT ACCORDING TO FASTENER REQUIREMENT OF PART NO: 5.
7. PART NO: 16 HAS TO BE BROUGHT ACCORDING TO FASTENER REQUIREMENT OF PART NO: 11.
8. CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

**3. PULLEY SPECIFICATIONS**

MAKE & MODEL	VINCA EQUIPOS - KB1500 \ EQUIVALENT
PULLEY CAPACITY:	1500kg
PULLEY DIAMETER (A):	Ø155 mm
PULLEY PCD (B):	Ø129 mm
SHEAVE RADIUS (C):	R5.5 mm
SHEAVE WIDTH (D):	27 mm
MAX. DIA WIRE ROPE	10 mm

FOR DISCUSSION PURPOSE ONLY

REV.NO.	DESCRIPTION	REFERENCE	ZONE	SIGN & DATE

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		

DO NOT SCALE THE DRAWING  
 ASK IF IN DOUBT  
 UNLESS OTHERWISE SPECIFIED,  
 ALL DIMENSIONS ARE IN MILLIMETERS  
 REMOVE SHARP EDGES & BURRS  
 CHAMFER 1 mm. X 45°  
 MACHINING FINISH IN MICRONS -  
 ∇ 8-25 ∇∇ 1.6-8  
 ∇∇∇ 0.025-1.6 ∇∇∇∇ <0.025

DEVIATION FOR NON TOLERANCE DIMENSIONS IS:2102 (PART-1)-1993

DIAMETERS & LENGTHS UPTO & INCL	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.
6 - 30 ±0.2	1- 6 +1'-00'
30 - 120 ±0.3	6- 30 +0'-30'
120 - 315 ±0.5	30-120 +0'-20'
315 - 1000 ±0.8	120-400 +0'-10'
1000 - 2000 ±1.2	
2000 - 4000 ±2.0	
4000 & ABOVE ±3.0	

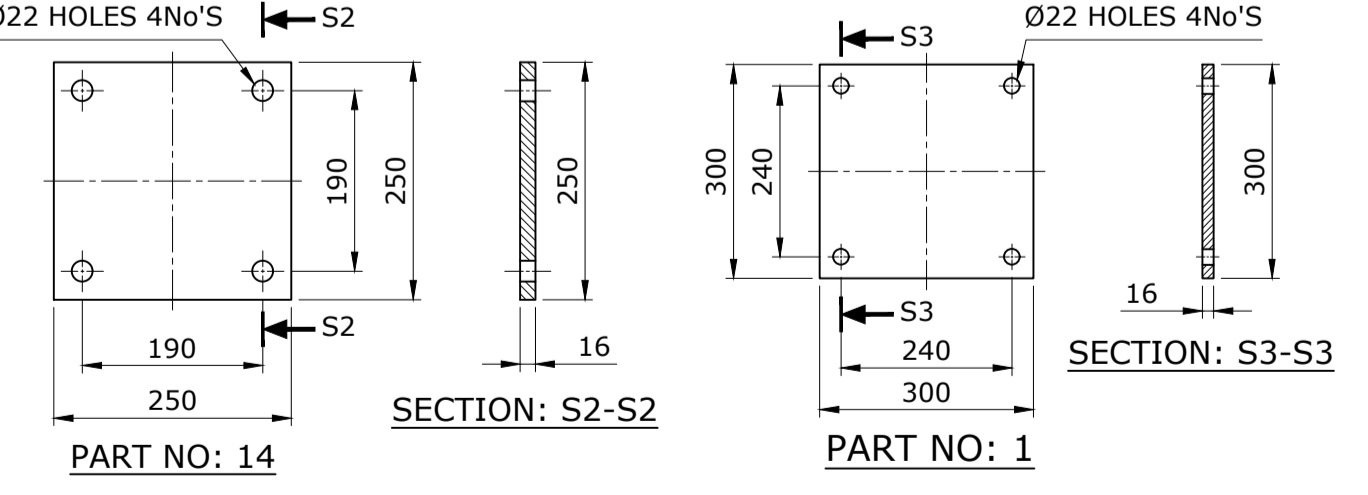
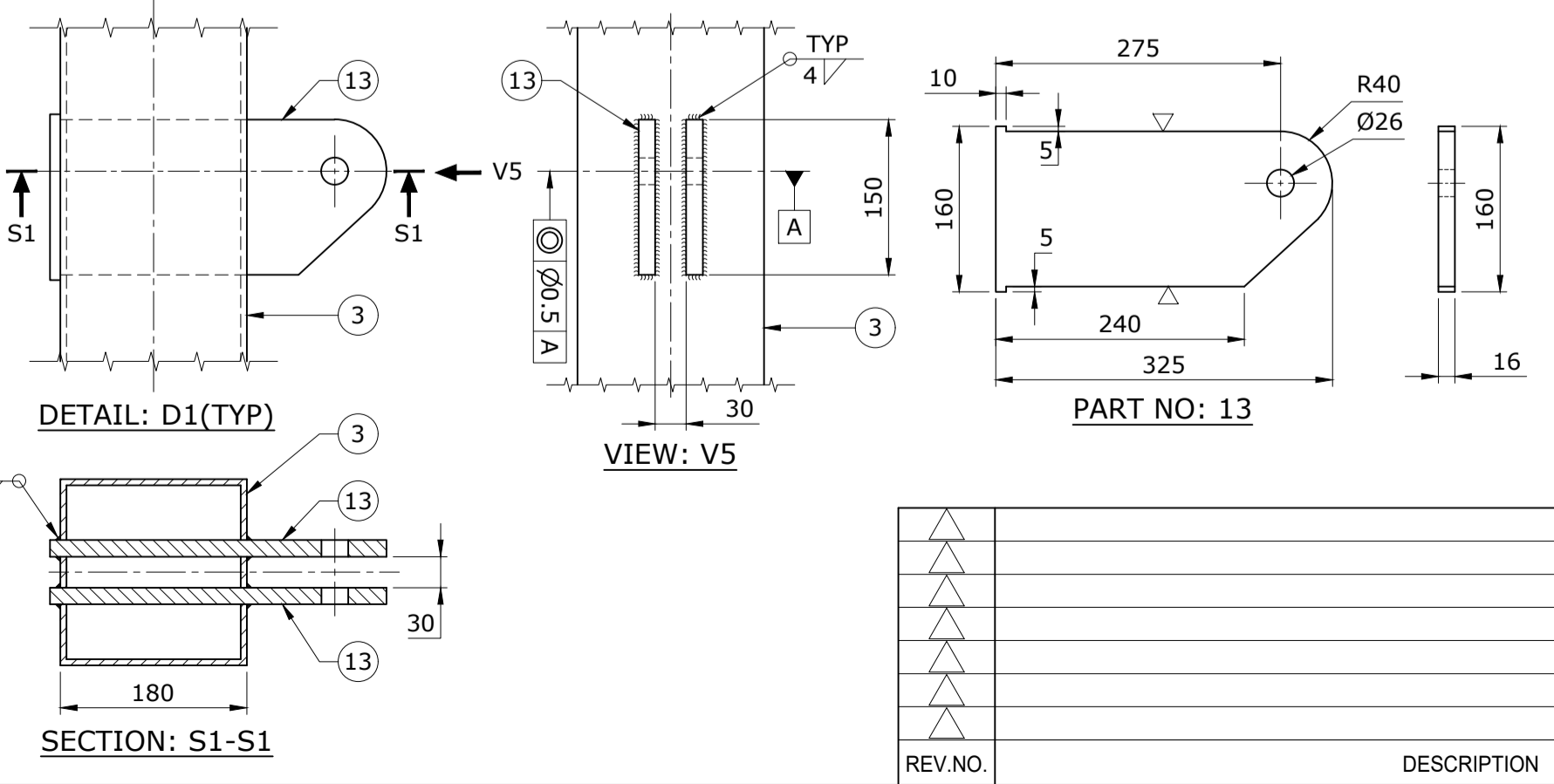
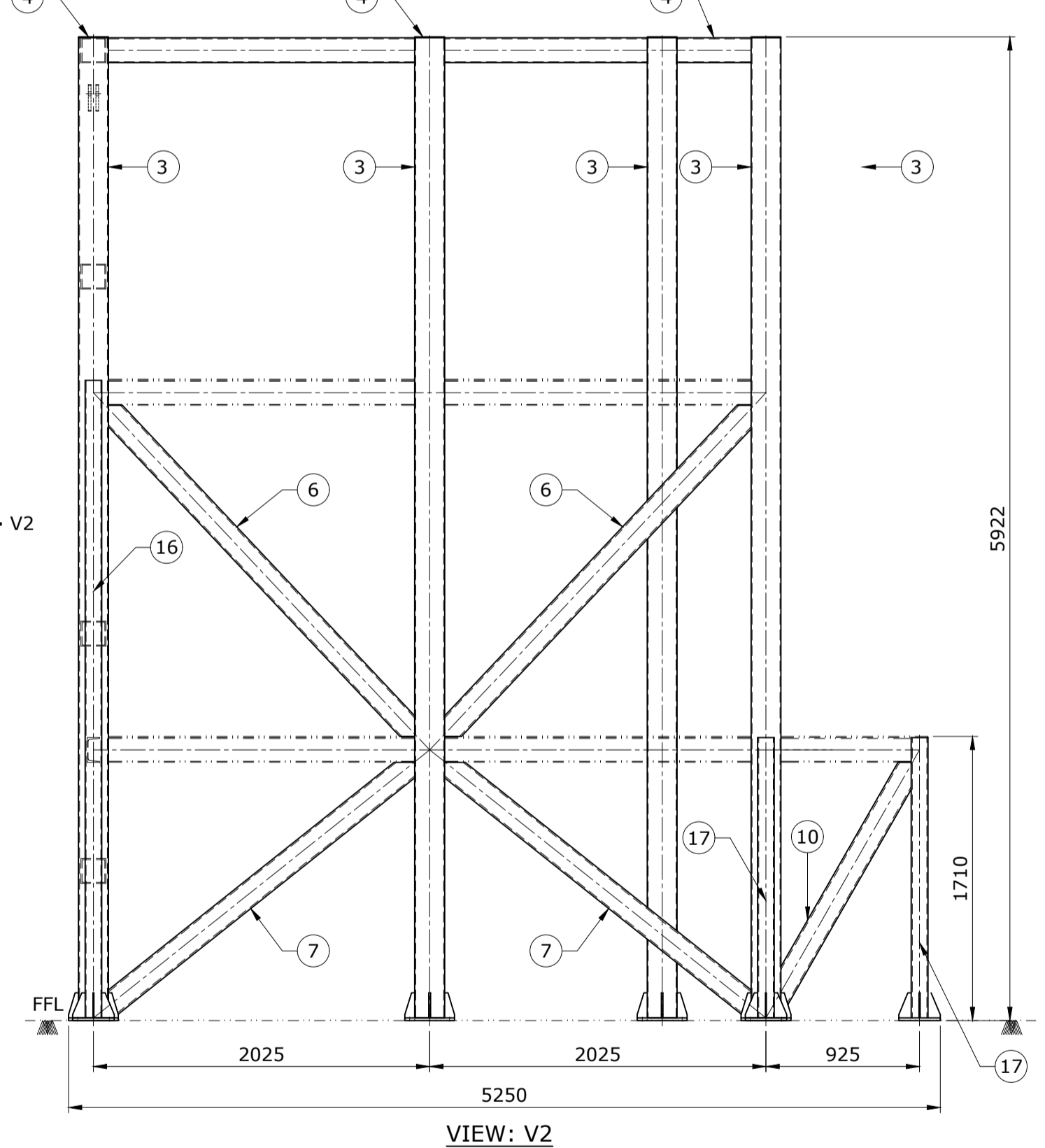
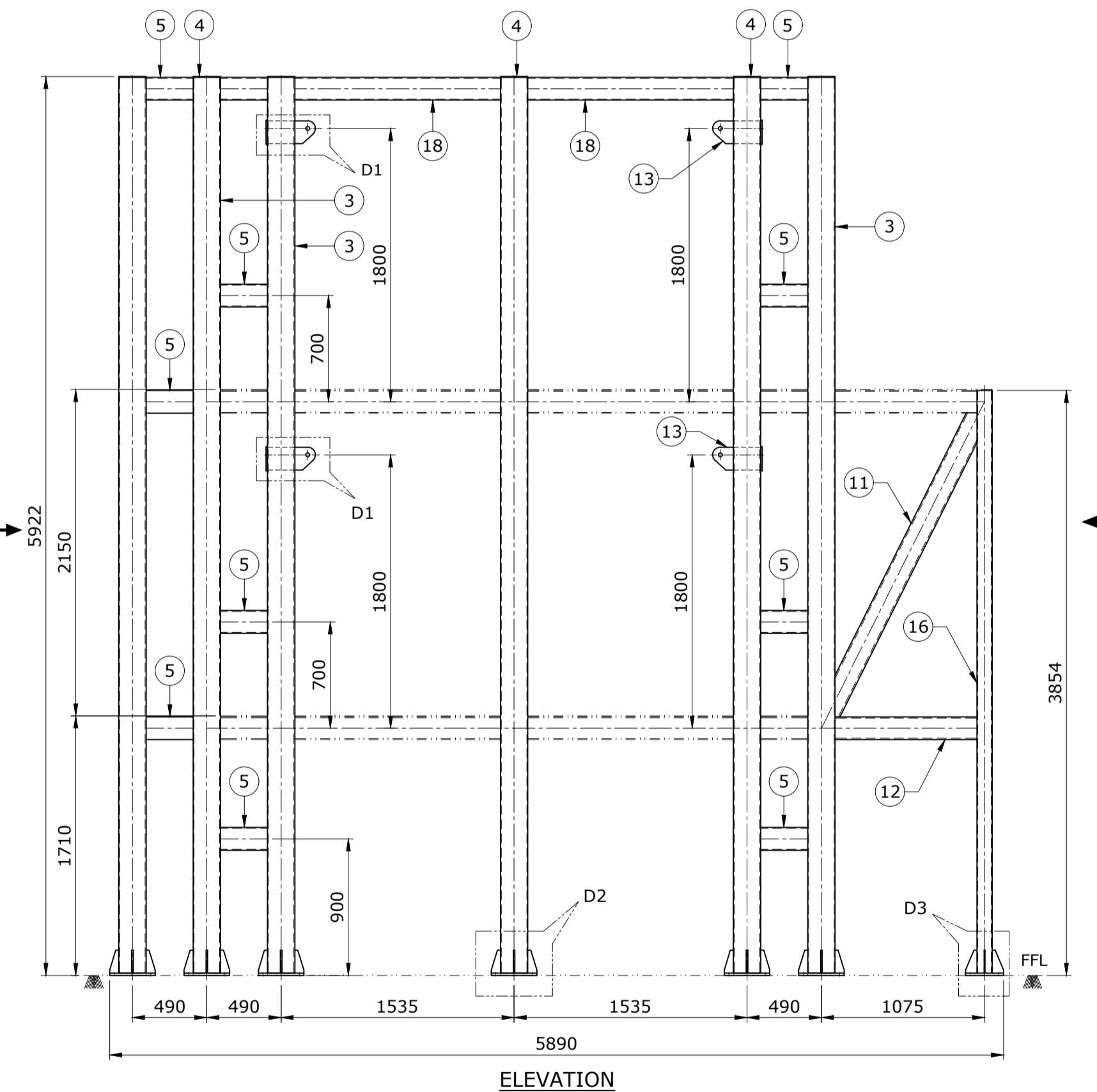
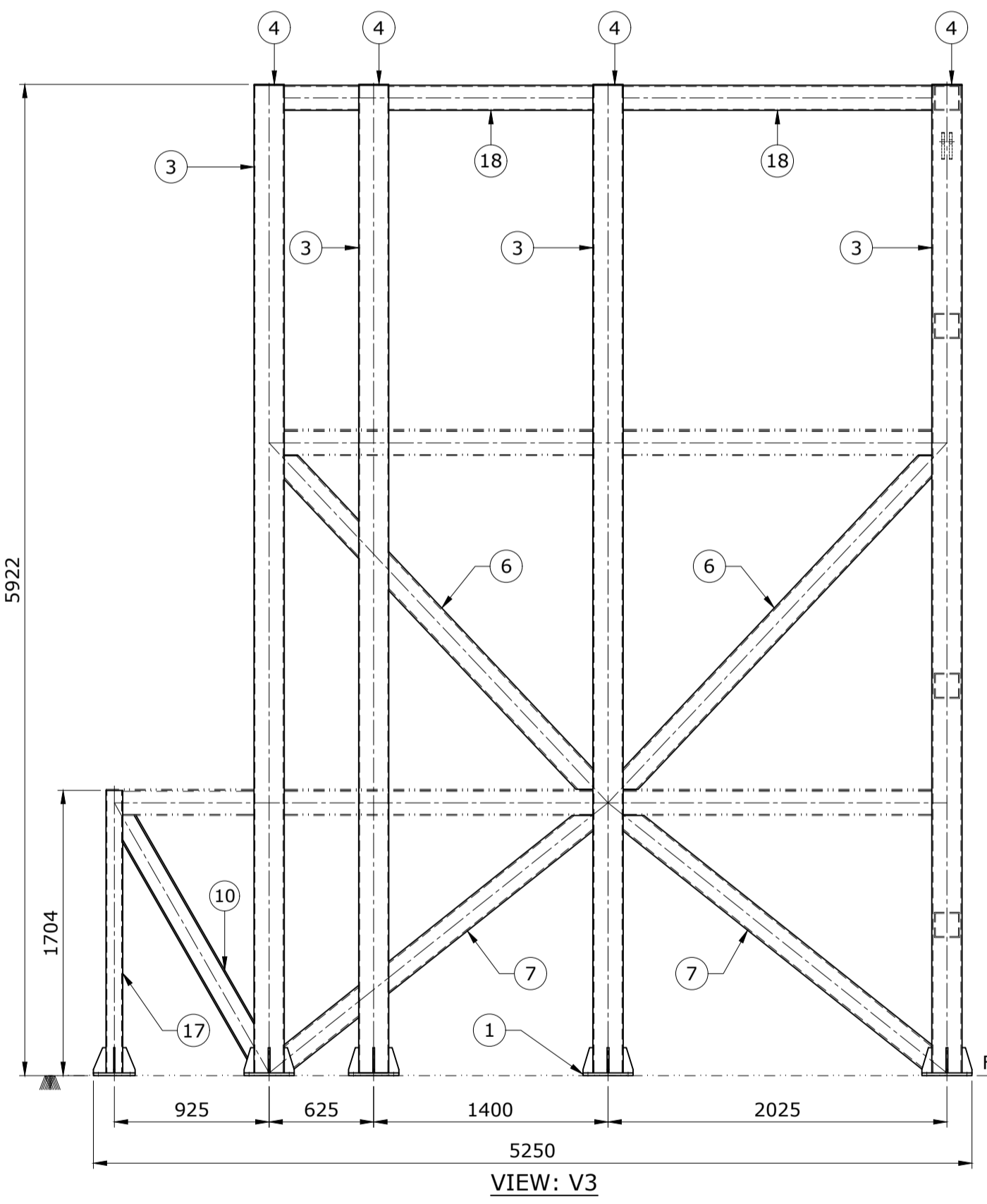
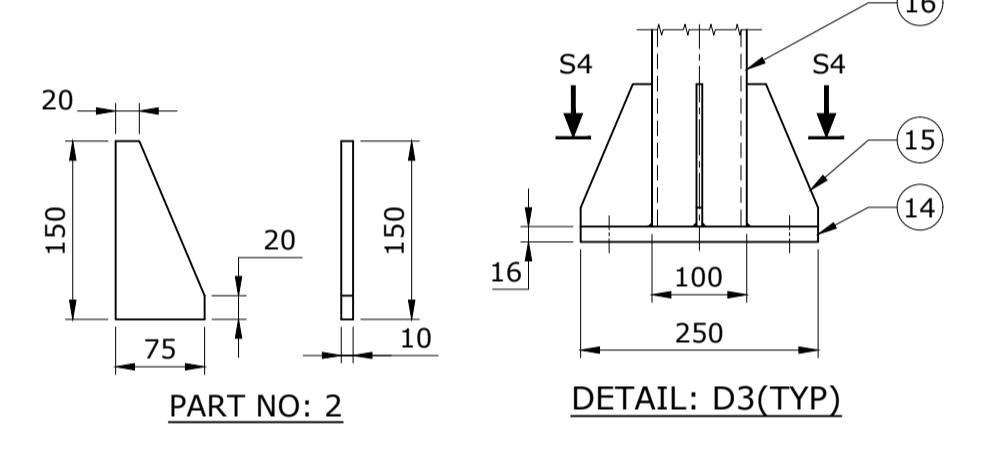
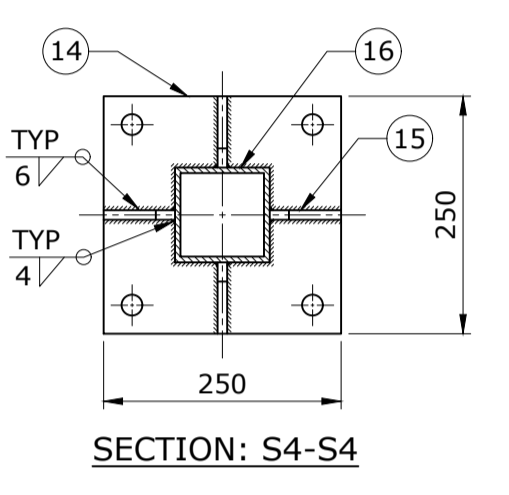
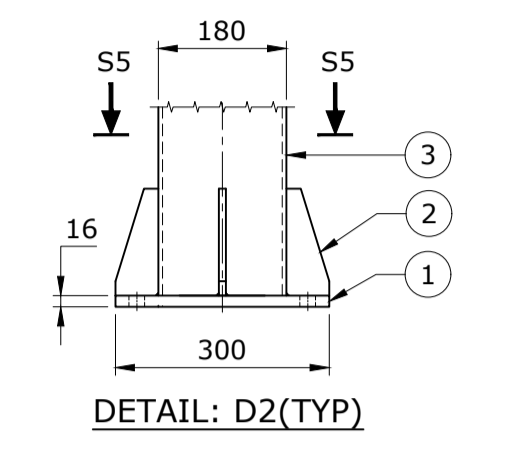
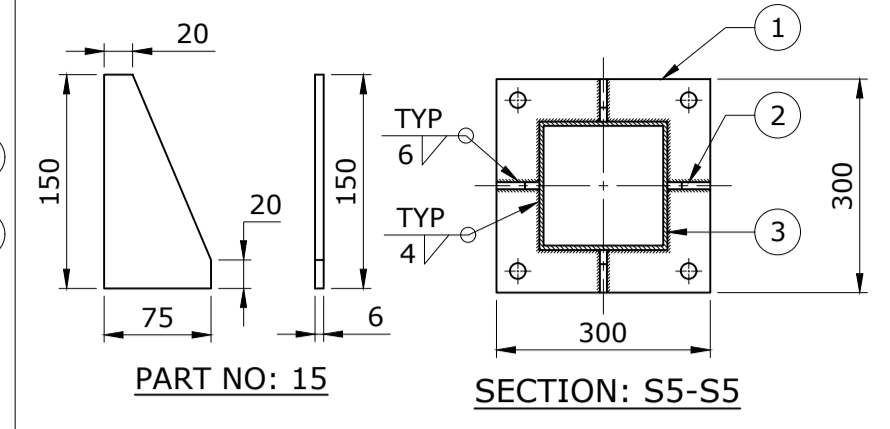
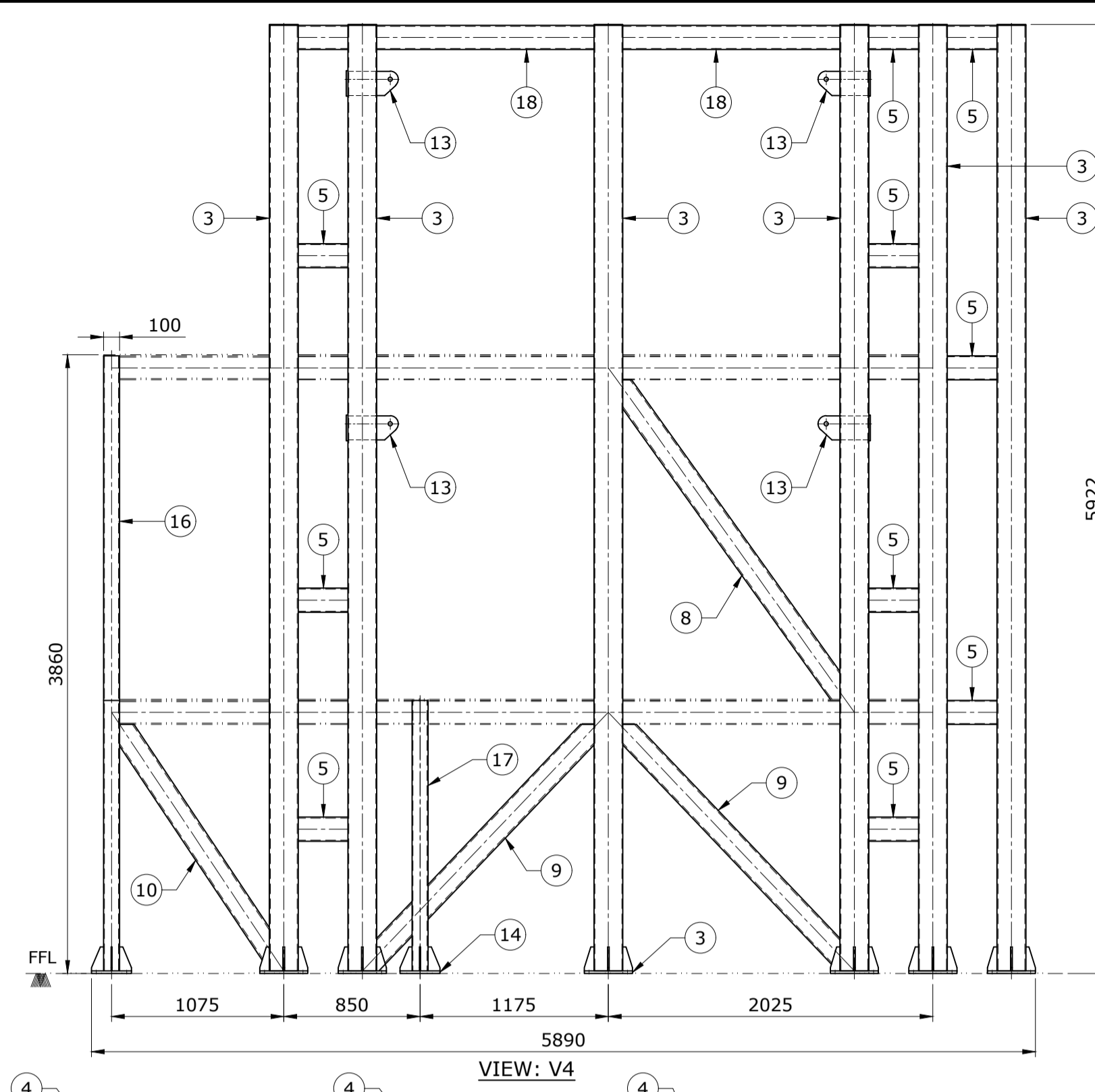
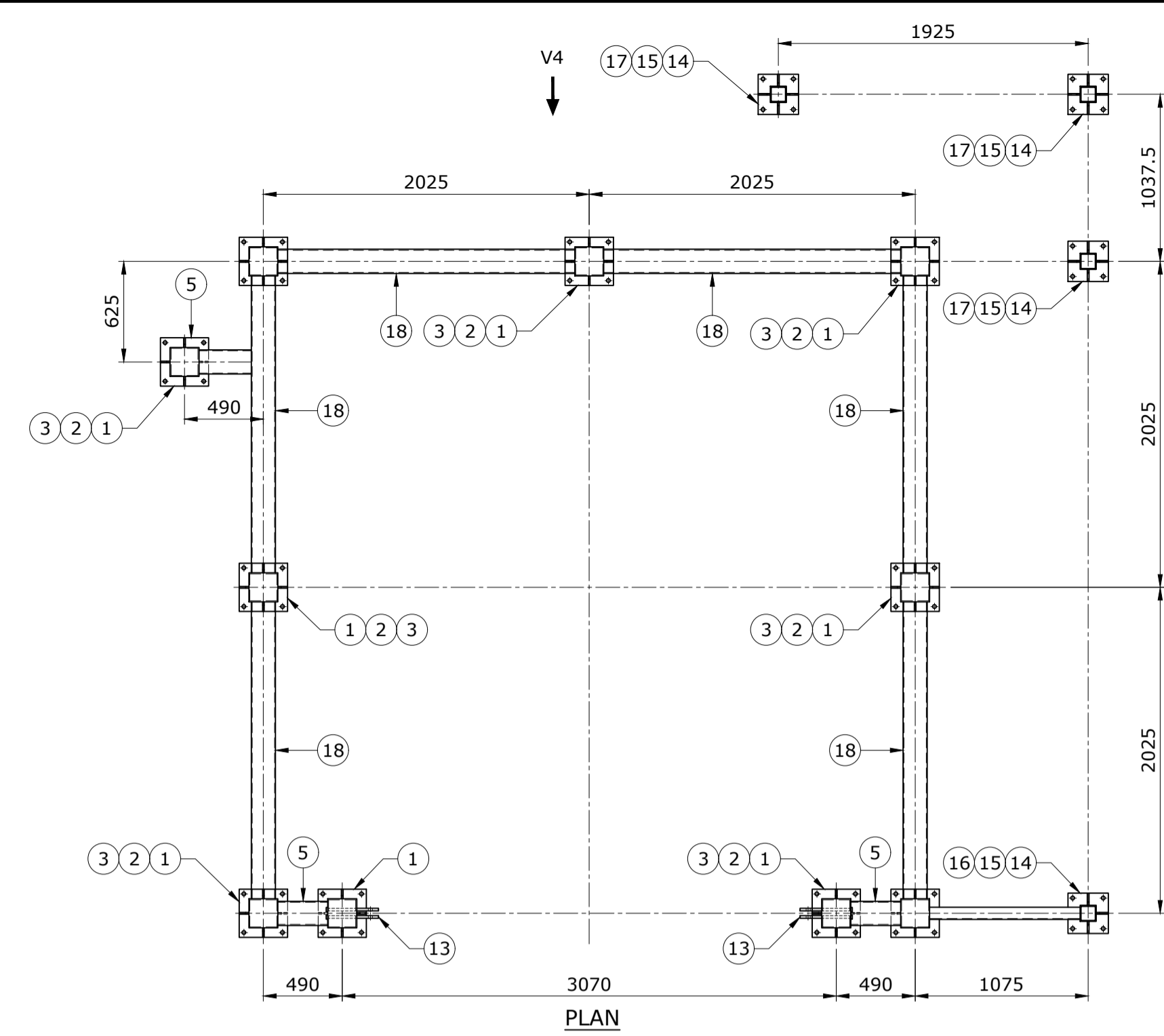
**स्केंड SCEND**  
 शाह केंद्रीय अभिकल्पनाएं  
 SHAR CENTRAL DESIGNS

DESIGNED	KAMAL S
DES.CCHKD	M S R K
DRAWN	SREENU.P
DRG.CCHKD	V V R
REVIEWED	P.S.SAI
APPROVED	SHYAM KUMAR

शीर्षक / TITLE: DETAILS OF WINCH MECHANISM FOR FOLDING PLATFORM S33 MODULING TOWER, SLC PROJECT

S.NO	DESCRIPTION	MATERIAL	QTY	MASS	REMARKS
16	M12 HEX.BOLT AND NUT WITH TWO WASHERS- 45Lg	IS:1364	16 sets	-	PROPERTY CLASS:8.8
15	COVER PLATE 100 x 100 x 5Thk	IS:2062 E250 Gr:B	2	1	TATA STRUCTURA
14	REC. HOLLOW SECTION 100 x 100 x 6Thk - 510Lg	IS:4923 YST : 310Gr	2	17	TATA STRUCTURA
13	STIFFENER 100 x 40 x 6Thk	IS:2062 E250 Gr:B	16	3	SUITABLY CUT
12	PLATE 110 x 100 x 6Thk	IS:2062 E250 Gr:B	8	4	
11	PLATE 120 x 110 x 10Thk	IS:2062 E250 Gr:B	4	4	
10	STIFFENER 100 x 100 x 6Thk	IS:2062 E250 Gr:B	16	8	SUITABLY CUT
9	COVER PLATE 100 x 100 x 5Thk	IS:2062 E250 Gr:B	2	1	
8	REC. HOLLOW SECTION 100 x 100 x 6Thk - 2040Lg	IS:4923 YST : 310Gr	2	69	TATA STRUCTURA
7a	REC. HOLLOW SECTION 100 x 100 x 6Thk - 1175Lg	IS:4923 YST : 310Gr	2	40	TATA STRUCTURA
7	REC. HOLLOW SECTION 100 x 100 x 6Thk - 510Lg	IS:4923 YST : 310Gr	4	34	TATA STRUCTURA
6	M10 HEX.BOLT AND NUT WITH TWO WASHERS- 40Lg	IS:1364	16 sets	-	PROPERTY CLASS:8.8
5	PLATE 300 x 200 x 10Thk	IS:2062 E250 Gr:B	4	19	
4	M20 DEE SHACKLE	IS:2415	4	-	
3	PULLEY	-	4	-	REFER SPECIFICATION
2	WINCH	-	4	-	REFER SPECIFICATION
1	Ø8mm WIRE ROPE SLING- 4mLg	IS:2266	4	-	REFER SPECIFICATION

कुल वजन / TOTAL WEIGHT: 200 Kg(Approx.)



- NOTES:**
1. ALL DIMENSIONS SHOWN ARE FINAL MACHINED DIMENSIONS.
  2. ALL THE WELDS ARE OF 4 mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
  3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  4. CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

**FOR DISCUSSION PURPOSE ONLY**

**TOTAL WEIGHT 3011 Kg(Approx).**

S.No	DESCRIPTION	MATERIAL	QTY	MASS	REMARKS
18	SQ. HOLLOW SECTION 150 x 150 x 6Thk - 310Lg	IS:4923 YST : 310Gr	14	115	TATA STRUCTURA
17	SQ. HOLLOW SECTION 100 x 100 x 6Thk - 1690Lg	IS:4923 YST : 310Gr	3	86	TATA STRUCTURA
16	SQ. HOLLOW SECTION 100 x 100 x 6Thk - 3840Lg	IS:4923 YST : 310Gr	1	65	TATA STRUCTURA
15	STIFFENER 150 x 75 x 6Thk	IS:2062 E250 Gr-B	16	8	
14	BASE PLATE- 2 250 x 250 x 16Thk	IS:2062 E250 Gr-B	4	31	
13	LOAD ROPE BRACKET PLATE 325 x 160 x 16Thk	IS:2062 E250 Gr-B	8	52	
12	ISMC150-935Lg	IS:808	1	16	
11	ISMC150-2025Lg	IS:808	1	34	
10	ISMC150-1590Lg	IS:808	1	27	
9	ISMC150-1950Lg	IS:808	2	66	
8	ISMC150-2240Lg	IS:808	1	38	
7	ISMC150-2330Lg	IS:808	4	157	
6	ISMC150-2570Lg	IS:808	4	173	
5	SQ. HOLLOW SECTION 150 x 150 x 6Thk - 310Lg	IS:4923 YST : 310Gr	11	90	TATA STRUCTURA
4	COVER PLATE 180 x 180 x 6Thk	IS:2062 E250 Gr-B	10	15	
3	SQ. HOLLOW SECTION 180 x 180 x 6Thk - 5900Lg	IS:4923 YST : 310Gr	10	1891	TATA STRUCTURA
2	COLUMN BASE STIFFENER 150 x 75 x 10Thk	IS:2062 E250 Gr-B	40	35	
1	BASE PLATE- 1 300 x 300 x 16Thk	IS:2062 E250 Gr-B	10	113	

REV. NO.	DESCRIPTION	REFERENCE	ZONE	SIGN & DATE

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		

**SCEND** शार केंद्रीय अभिकल्पनाएँ SHAR CENTRAL DESIGNS

**FOR DISCUSSION PURPOSE ONLY**

**DEVIATION FOR NON TOLERANCE DIMENSIONS IS:2102 (PART-1)-1993**

DESIGNED	KAMAL S.
DES.CCHKD	M.S.K.R.
DRAWN	SREENU.P.
DRG.CCHKD	V.V.R.
REVIEWED	P.S.SAI
APPROVED	SHARVESH KUMAR

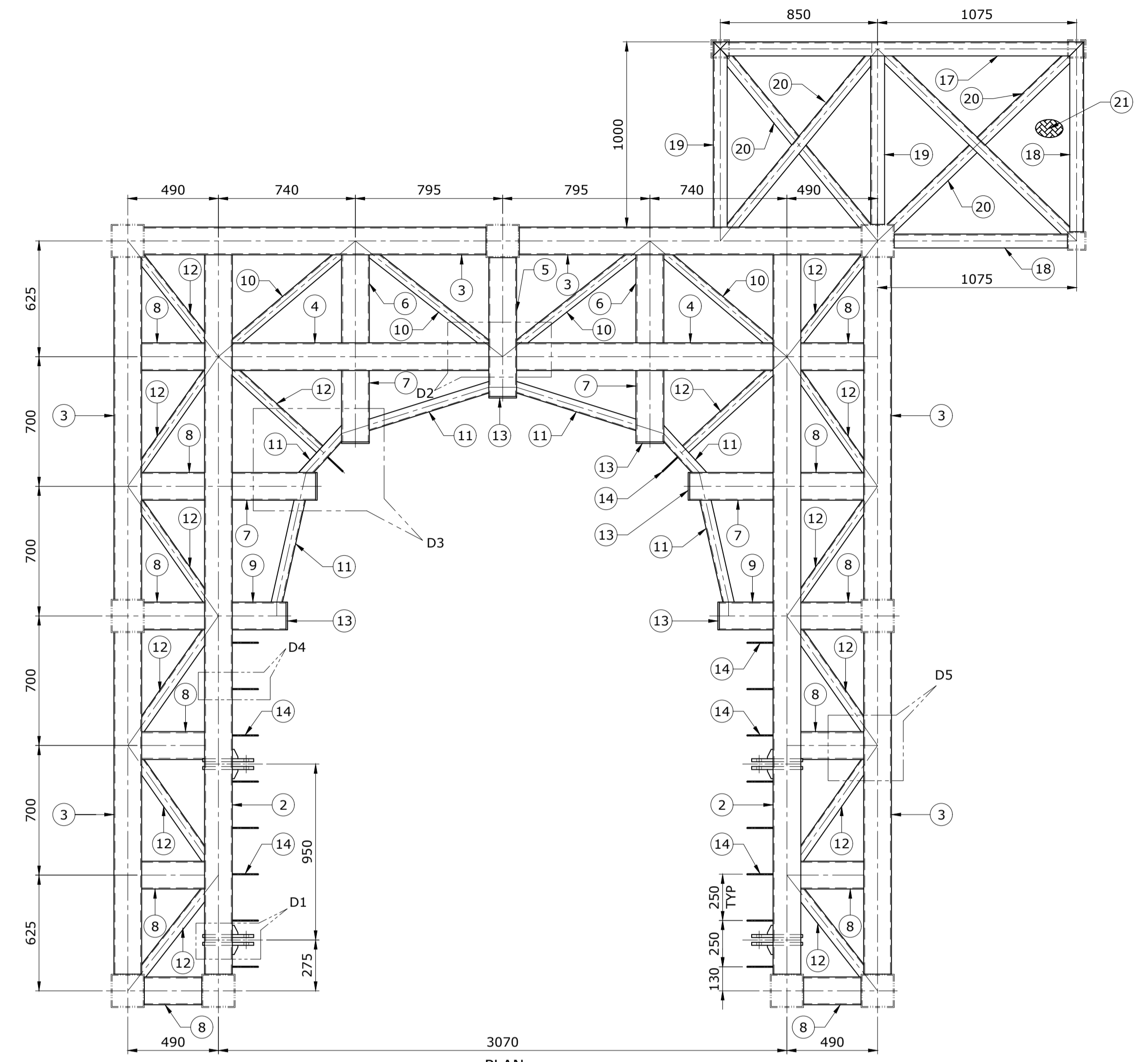
**श्रीमंक / TITLE:** COLUMN LAYOUT  
**SS3 MODULING TOWER, SLC PROJECT**

भारत सरकार / GOVERNMENT OF INDIA  
 भारतीय अंतरिक्ष अनुसंधान संगठन / INDIAN SPACE RESEARCH ORGANISATION  
 सतीश धवन अंतरिक्ष केंद्र, शार / SATISH DHAWAN SPACE CENTRE SHAR,  
 श्रीहरीकोटा / SRIHARIKOTA.

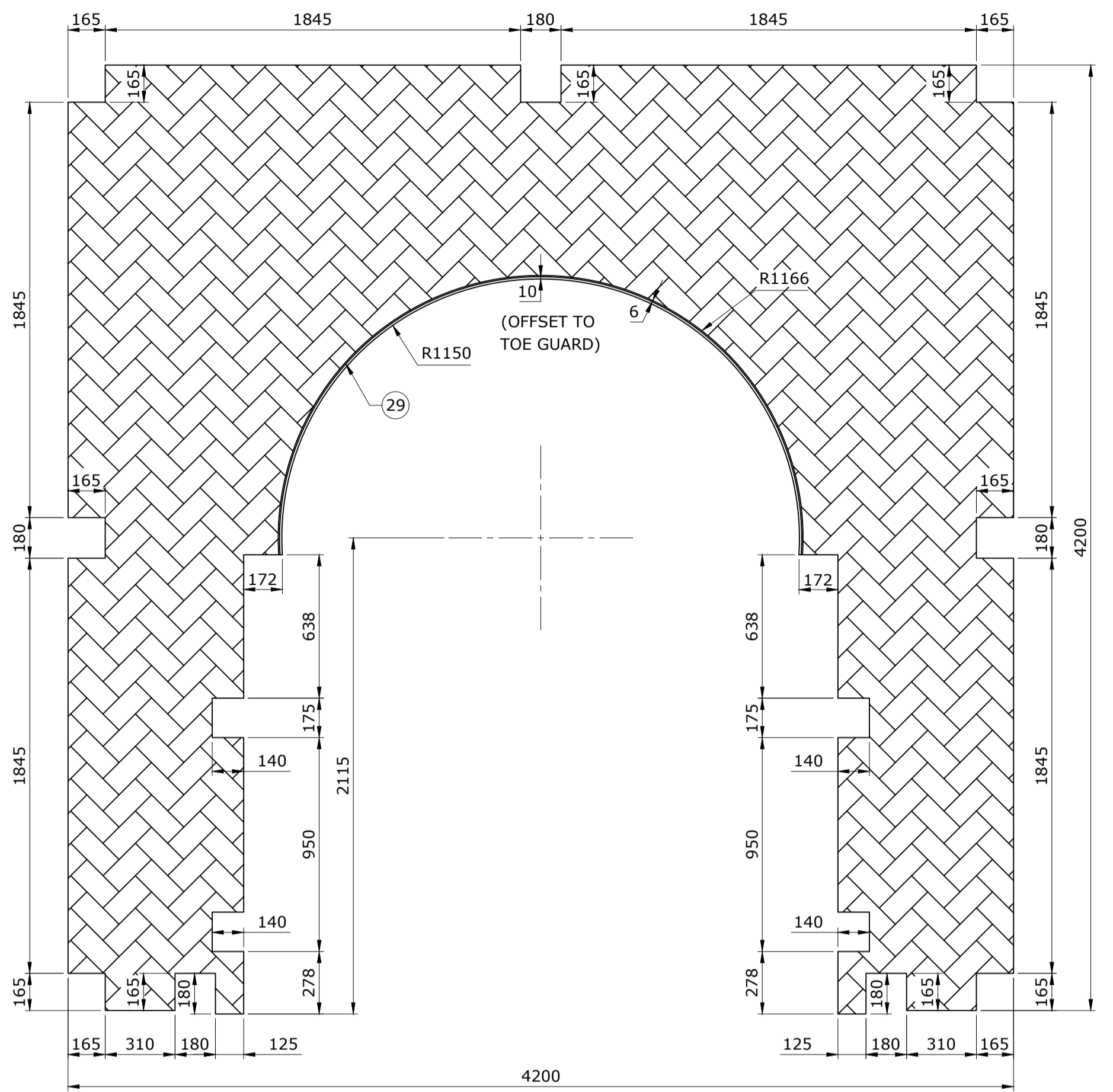
श्रीमंक / PROJECTION: 1st Angle

दिनांक / SCALE: 1 : 10  
 आरेखन क्र. / DRG. NO.: 10-STR-12-5-84/A1  
 कंप. फाइल नं. / COMP. FILE NO.: AJ-21

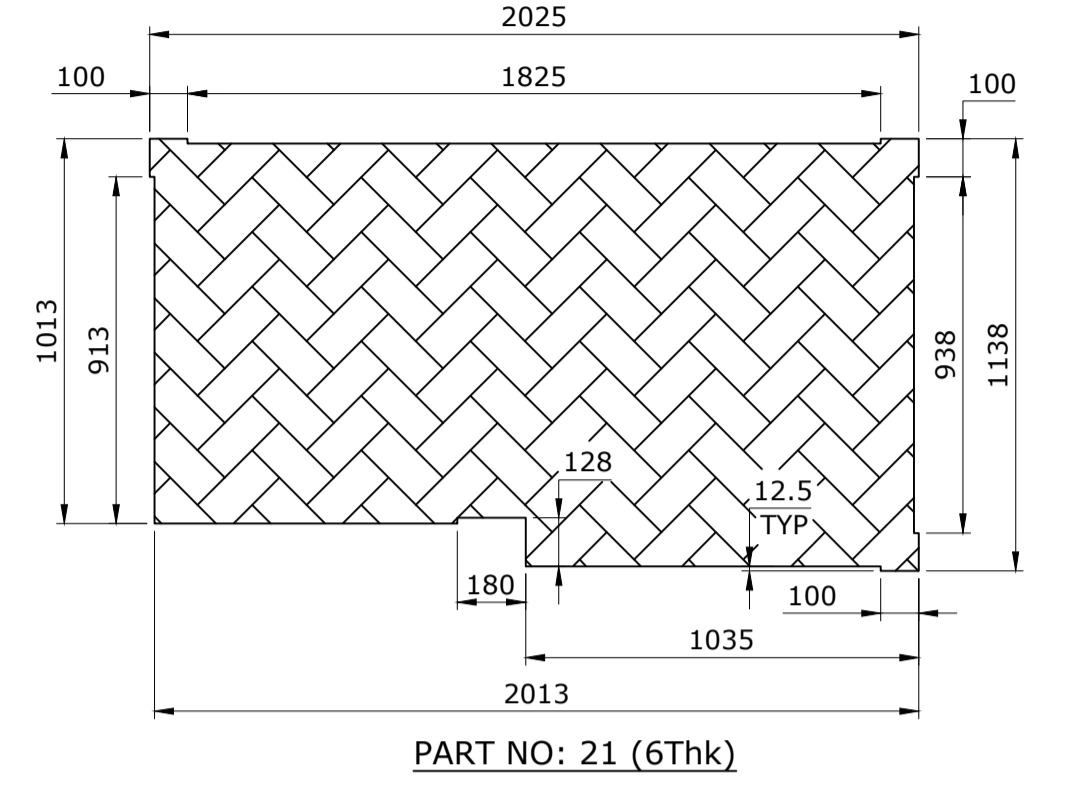
श्रीमंक / SHEET No.: 4 OF 7  
 रिव. नं. / REV. No.: R0



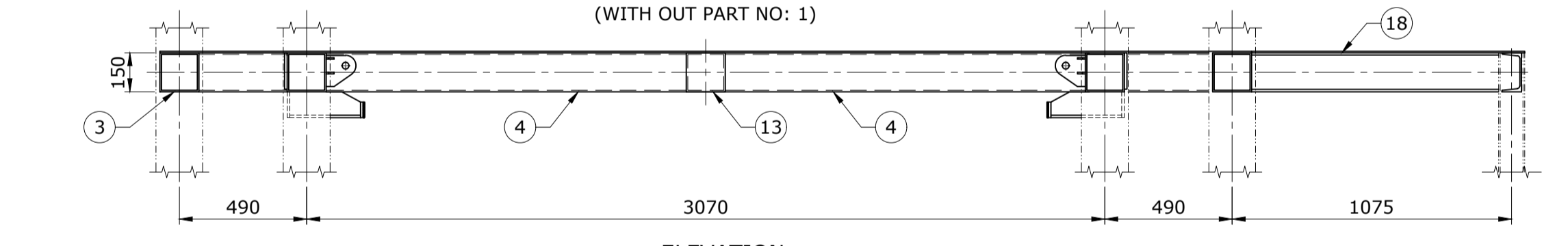
PLAN  
(WITH OUT PART NO: 1)



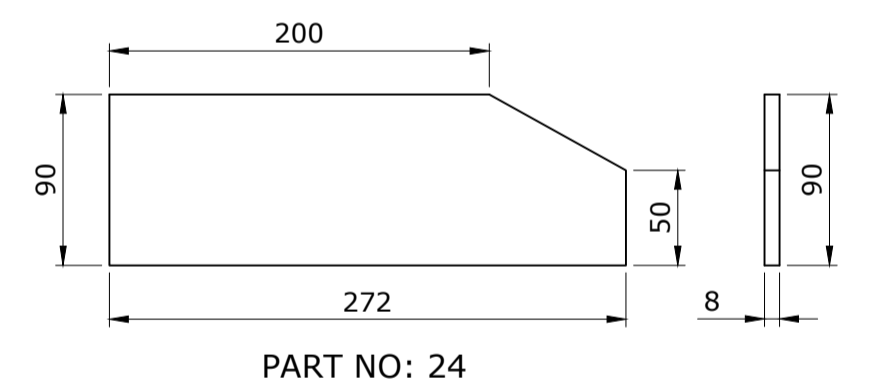
ELEVATION  
PART NO: 1 (6Thk)



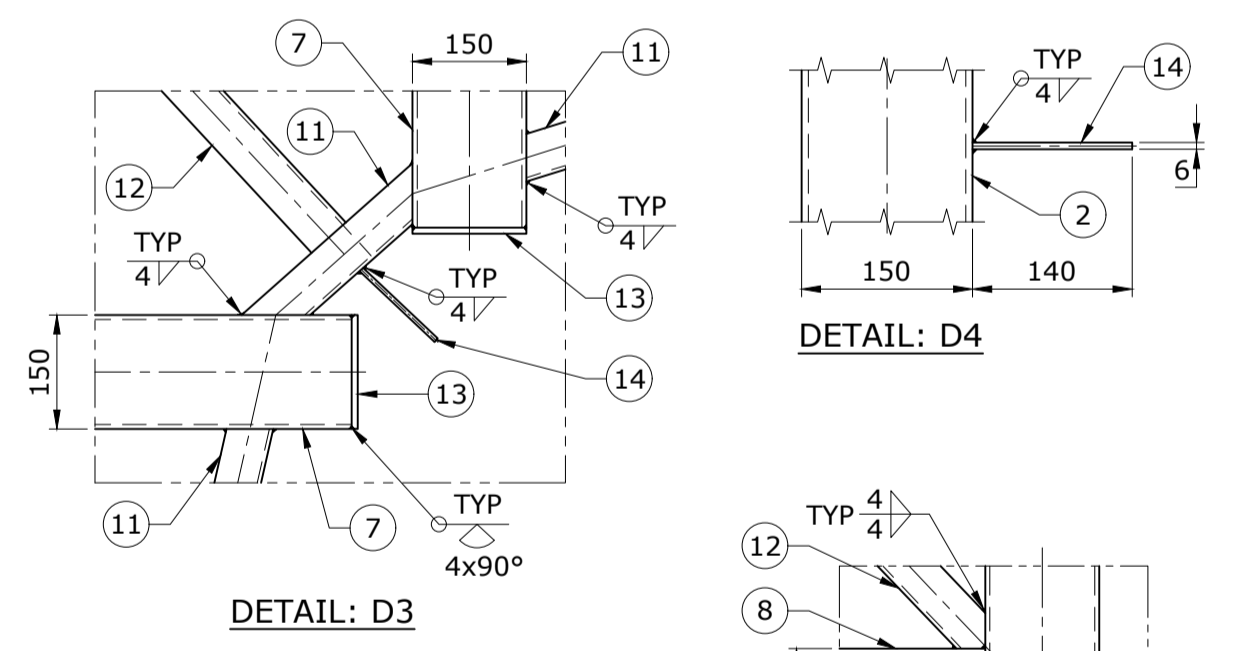
PART NO: 21 (6Thk)



ELEVATION



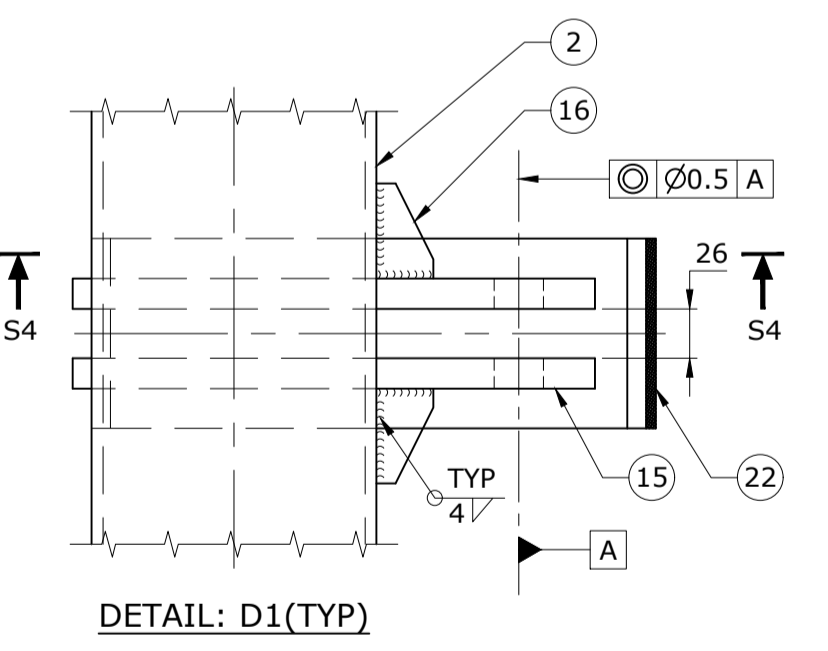
PART NO: 24



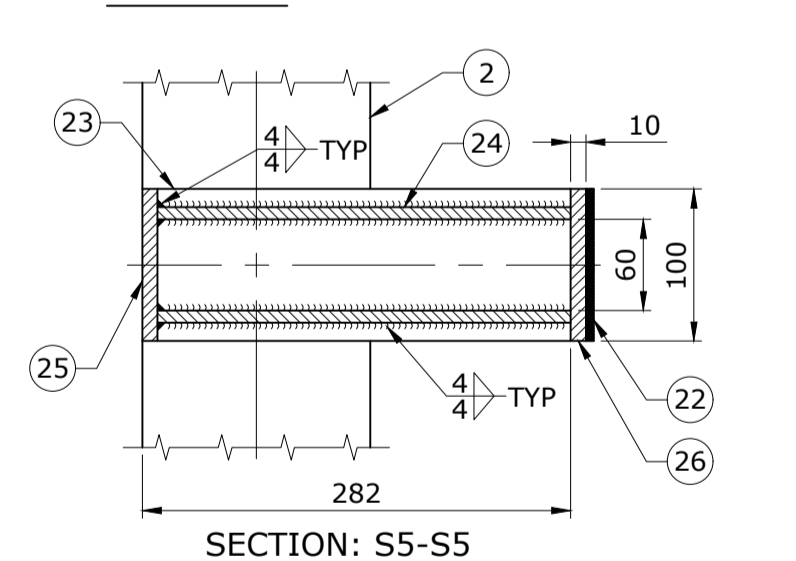
DETAIL: D3

DETAIL: D4

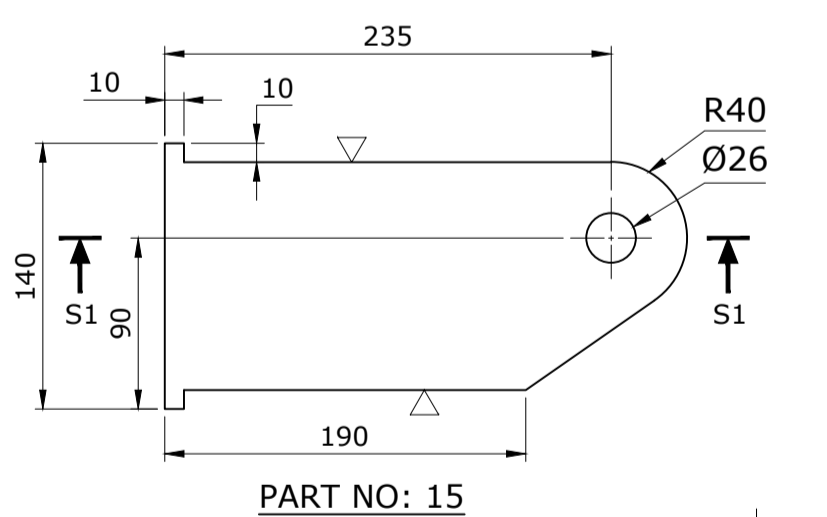
DETAIL: D5



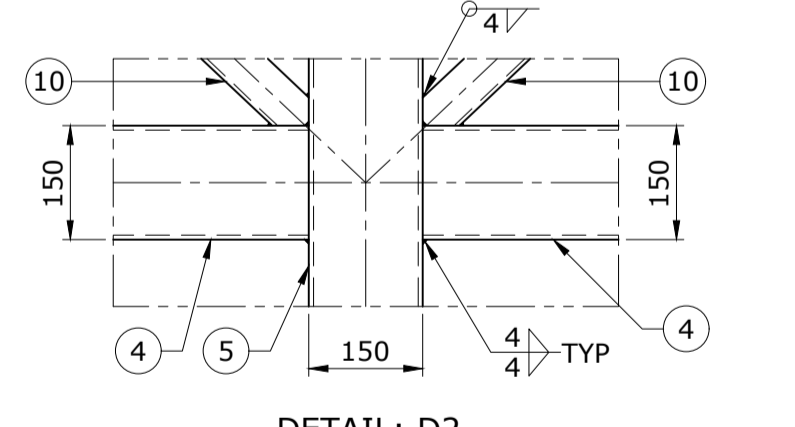
DETAIL: D1(TYP)



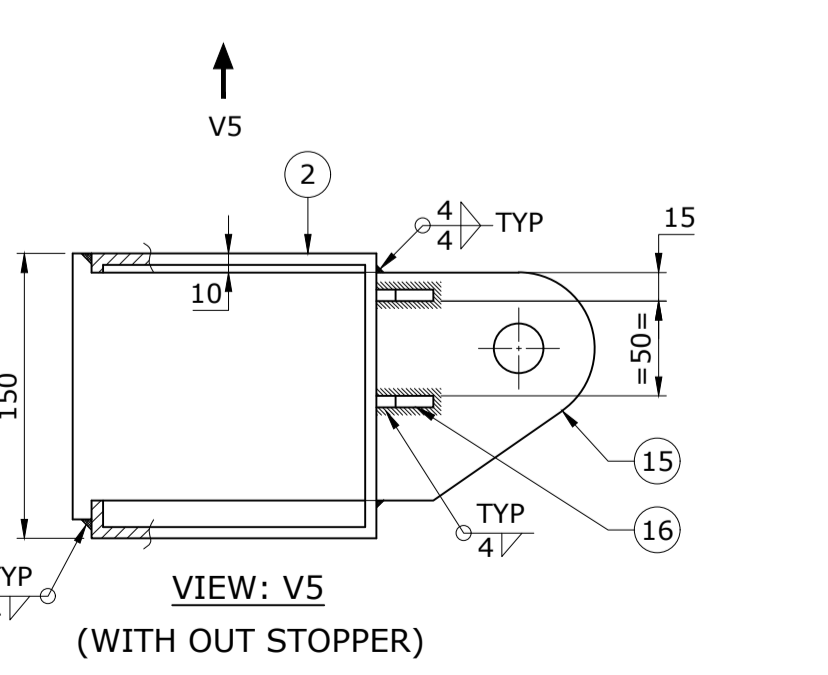
SECTION: S5-S5



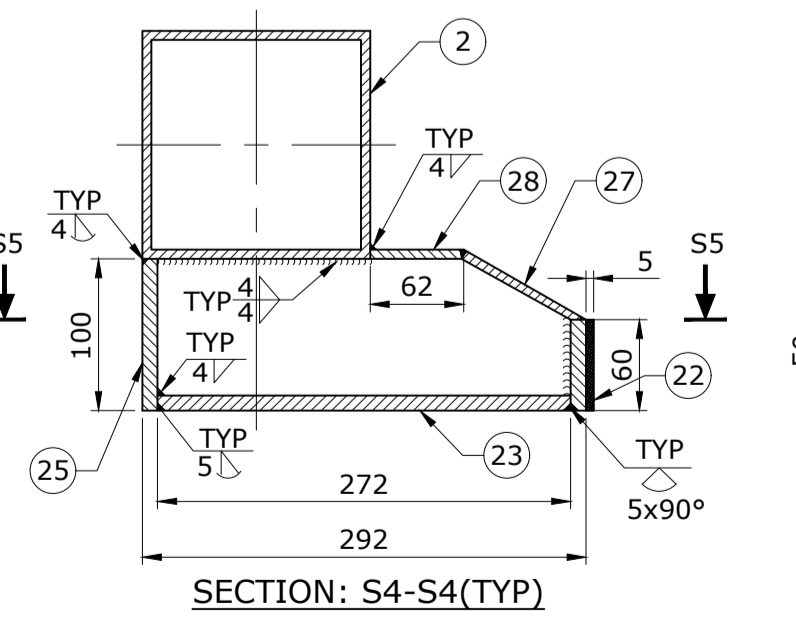
SECTION: S1-S1



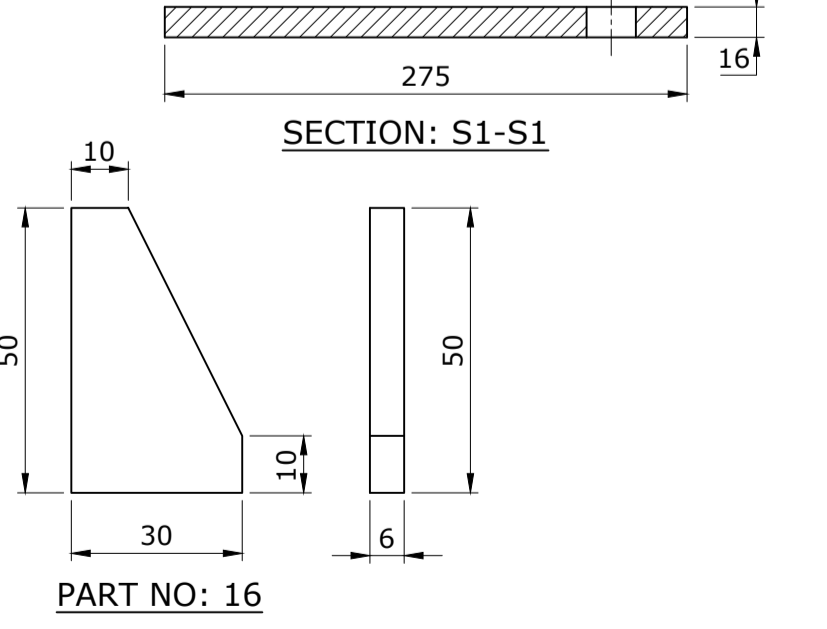
DETAIL: D2



VIEW: V5  
(WITH OUT STOPPER)



SECTION: S4-S4(TYP)



PART NO: 16

NOTES:

1. ALL DIMENSIONS SHOWN ARE FINAL MACHINED DIMENSIONS.
2. ALL THE WELDS ARE OF 4 mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
3. ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
4. BILL OF MATERIAL SHOWN FOR ONE ASSEMBLY ONLY TOTAL NO. OF PLATFORMS REQUIRED ARE 2.
5. CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

FOR DISCUSSION PURPOSE ONLY

TOTAL WEIGHT 1665 Kg(Approx)

S.NO	DESCRIPTION	MATERIAL	QTY	MASS	REMARKS
29	TOE GUARD 3515 x 100 x 6Thk	IS:2062 E250 Gr-B	1	17	
28	STOPPER COVER PLATE- 2 100 x 62 x 6Thk	IS:2062 E250 Gr-B	4	1	
27	STOPPER COVER PLATE- 1 100 x 100 x 6Thk	IS:2062 E250 Gr-B	4	2	
26	STOPPER PLATE- 4 100 x 60 x 10Thk	IS:2062 E250 Gr-B	4	2	
25	STOPPER PLATE- 3 100 x 100 x 10Thk	IS:2062 E250 Gr-B	4	3	
24	STOPPER PLATE- 2 272 x 90 x 8Thk	IS:2062 E250 Gr-B	8	14	SUITABLY CUT & WELD
23	STOPPER PLATE- 1 272 x 100 x 10Thk	IS:2062 E250 Gr-B	4	9	
22	FELT 100 x 60 x 5Thk	-	4	-	
21	TOWER CHQ.PLATE 2025 x 1138 x 6Thk	IS:2062 E250 Gr-B	1	109	SUITABLY CUT
20	ISA 60 x 60 x 5Thk - 1495Lg	IS:808	4	27	
19	ISMC150- 1000Lg	IS:808	2	34	
18	ISMC150- 1025Lg	IS:808	2	34	
17	ISMC150- 2000Lg	IS:808	1	34	
16	STIFFENER 50 x 30 x 6Thk	IS:2062 E250 Gr-B	16	1	
15	BRACKET PLATE 275 x 140 x 16Thk	IS:2062 E250 Gr-B	8	39	
14	STIFFENER- 1 150 x 140 x 6Thk	IS:2062 E250 Gr-B	18	18	
13	COVER PLATE 150 x 150 x 8Thk	IS:2062 E250 Gr-B	7	10	
12	ISA 60 x 60 x 5Thk - 580Lg	IS:808	14	37	SUITABLY CUT & WELD
11	ISA 60 x 60 x 5Thk - 770Lg	IS:808	6	21	SUITABLY CUT & WELD
10	ISA 60 x 60 x 5Thk - 800Lg	IS:808	4	14	SUITABLY CUT & WELD
9	REC. HOLLOW SECTION 150 x 150 x 6Thk - 290Lg	IS:4923 YST : 310Gr	2	15	TATA STRUCTURA
8	REC. HOLLOW SECTION 150 x 150 x 6Thk - 340Lg	IS:4923 YST : 310Gr	12	108	TATA STRUCTURA
7	REC. HOLLOW SECTION 150 x 150 x 6Thk - 450Lg	IS:4923 YST : 310Gr	4	48	TATA STRUCTURA
6	REC. HOLLOW SECTION 150 x 150 x 6Thk - 475Lg	IS:4923 YST : 310Gr	2	25	TATA STRUCTURA
5	REC. HOLLOW SECTION 150 x 150 x 6Thk - 750Lg	IS:4923 YST : 310Gr	1	20	TATA STRUCTURA
4	REC. HOLLOW SECTION 150 x 150 x 6Thk - 1385Lg	IS:4923 YST : 310Gr	2	73	TATA STRUCTURA
3	REC. HOLLOW SECTION 150 x 150 x 6Thk - 1845Lg	IS:4923 YST : 310Gr	6	292	TATA STRUCTURA
2	REC. HOLLOW SECTION 150 x 150 x 6Thk - 3885Lg	IS:4923 YST : 310Gr	2	205	TATA STRUCTURA
1	TOWER CHQ.PLATE 5740 x 4700 x 6Thk	IS:2062 E250 Gr-B	1	456	SUITABLY CUT

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		

DO NOT SCALE THE DRAWING  
 ASK IF IN DOUBT  
 UNLESS OTHERWISE SPECIFIED,  
 ALL DIMENSIONS ARE IN MILLIMETERS  
 REMOVE SHARP EDGES & BURRS  
 CHAMFER 1 mm. X 45°  
 MACHINING FINISH IN MICRONS -  
 ∇ 8-25 ∇∇ 1.6-8  
 ∇∇∇ 0.025-1.6 ∇∇∇∇ <0.025

DEVIATION FOR NON TOLERANCE DIMENSIONS IS:2102 (PART-1)-1993	
DIAMETERS & LENGTHS UPTO & INCL 6±0.1	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL
6 - 30 ±0.2	1- 6 +1'-00'
30 - 120 ±0.3	6- 30 +0'-30'
120 - 315 ±0.5	30-120 +0'-20'
315 - 1000 ±0.8	120-400 +0'-10'
1000 - 2000 ±1.2	
2000 - 4000 ±2.0	
4000 & ABOVE ±3.0	

**SCEND**  
 शार केंद्रीय अभिकल्पना  
**SHAR CENTRAL DESIGNS**

शीर्षक / TITLE: **FIXED PLATFORM STRUCTURAL DETAILS**  
**SS3 MODULING TOWER, SLC PROJECT**

भारत सरकार / GOVERNMENT OF INDIA  
 भारतीय अंतरिक्ष अनुसंधान संगठन / INDIAN SPACE RESEARCH ORGANISATION  
 सतीश धवन अंतरिक्ष केंद्र, शार / SATISH DHAWAN SPACE CENTRE SHAR,  
 श्रीहरिकोटा / SRIHARIKOTA.

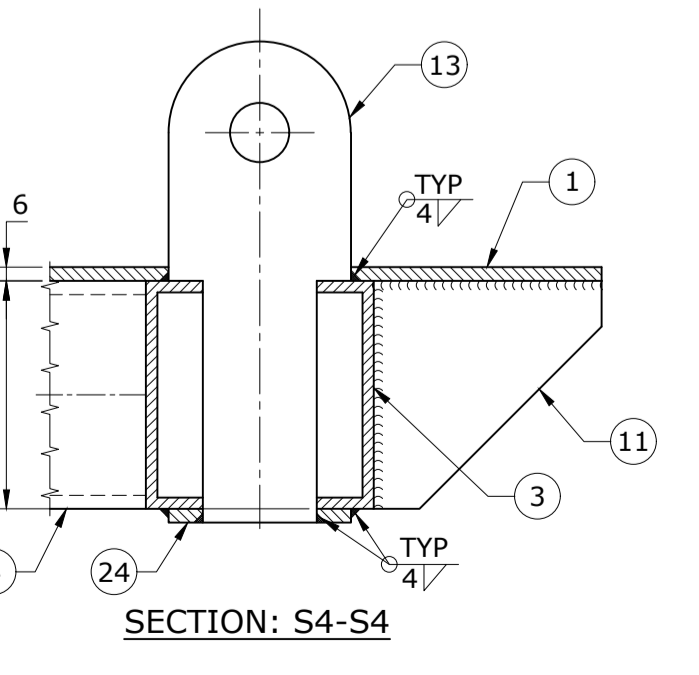
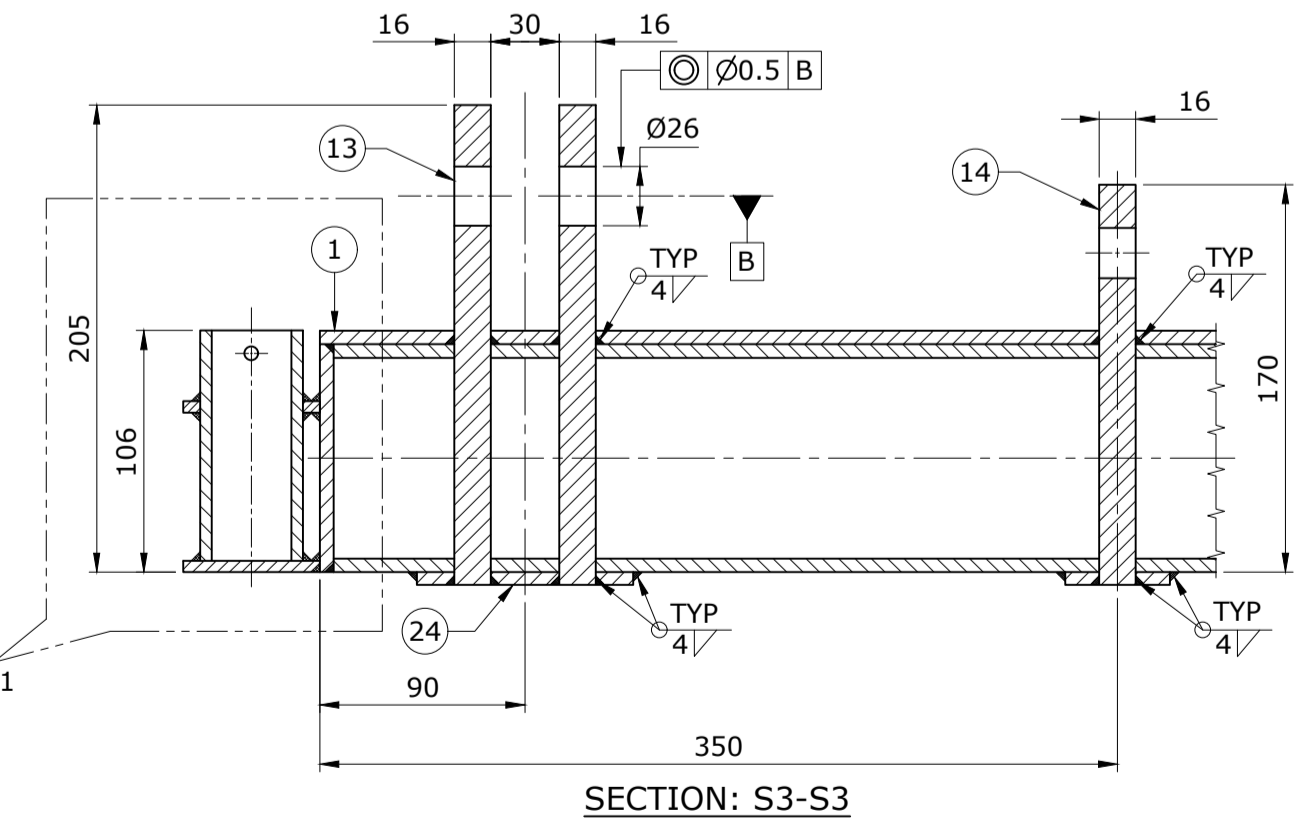
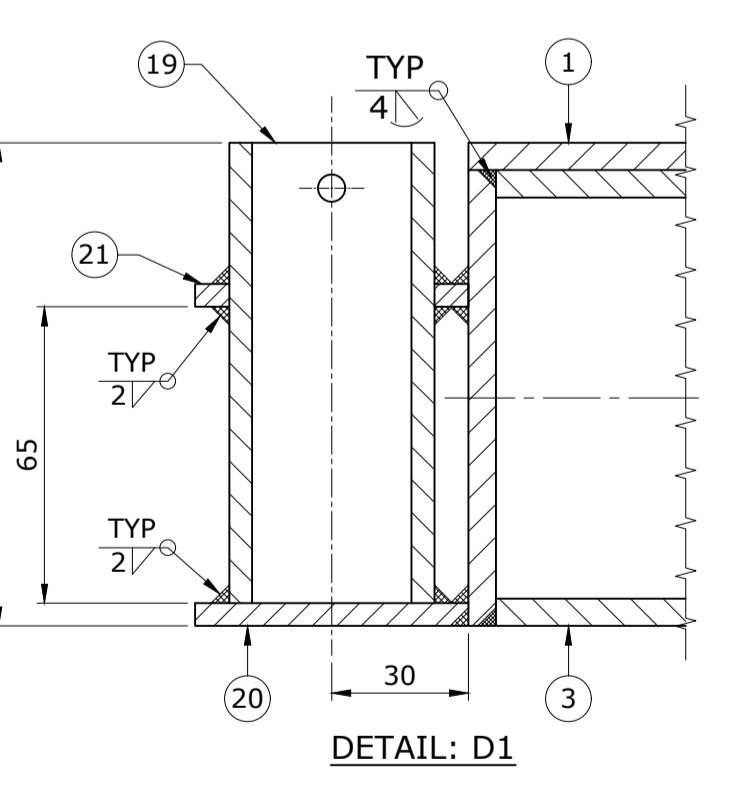
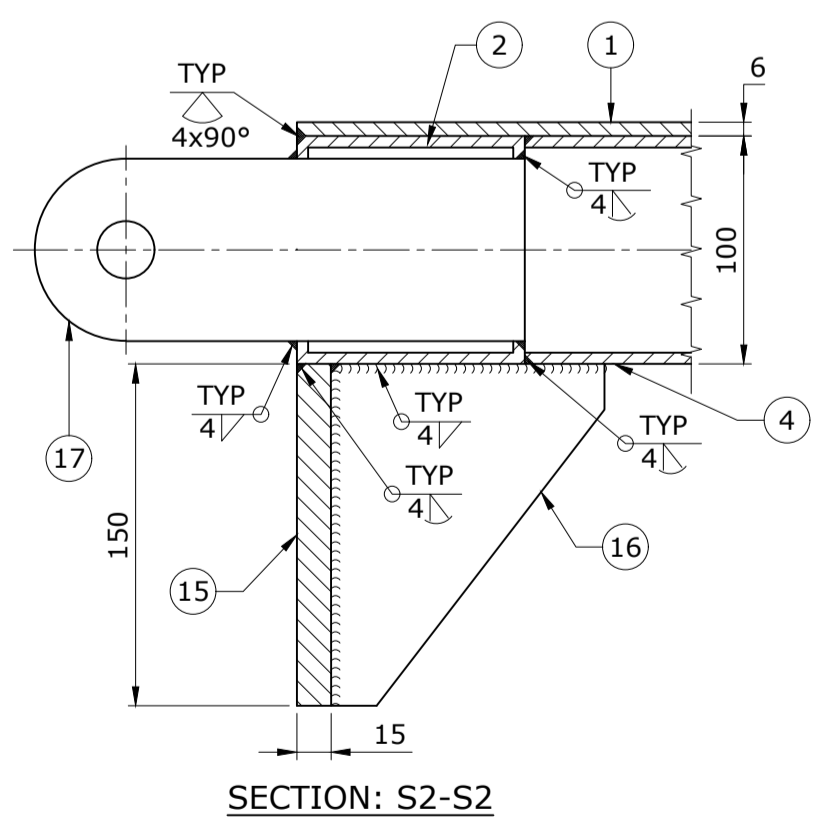
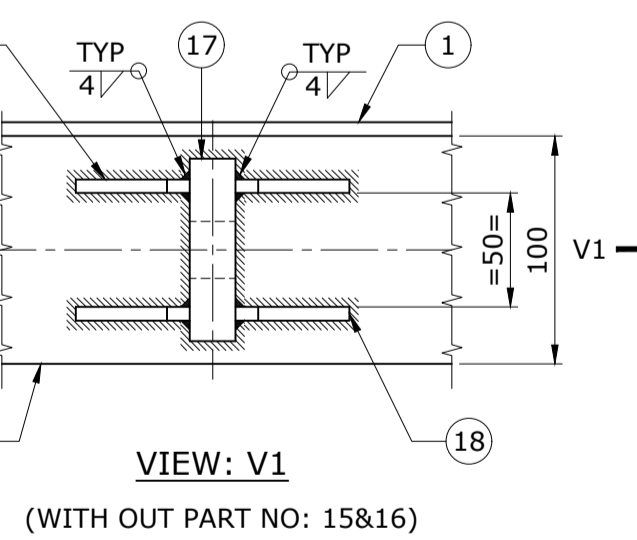
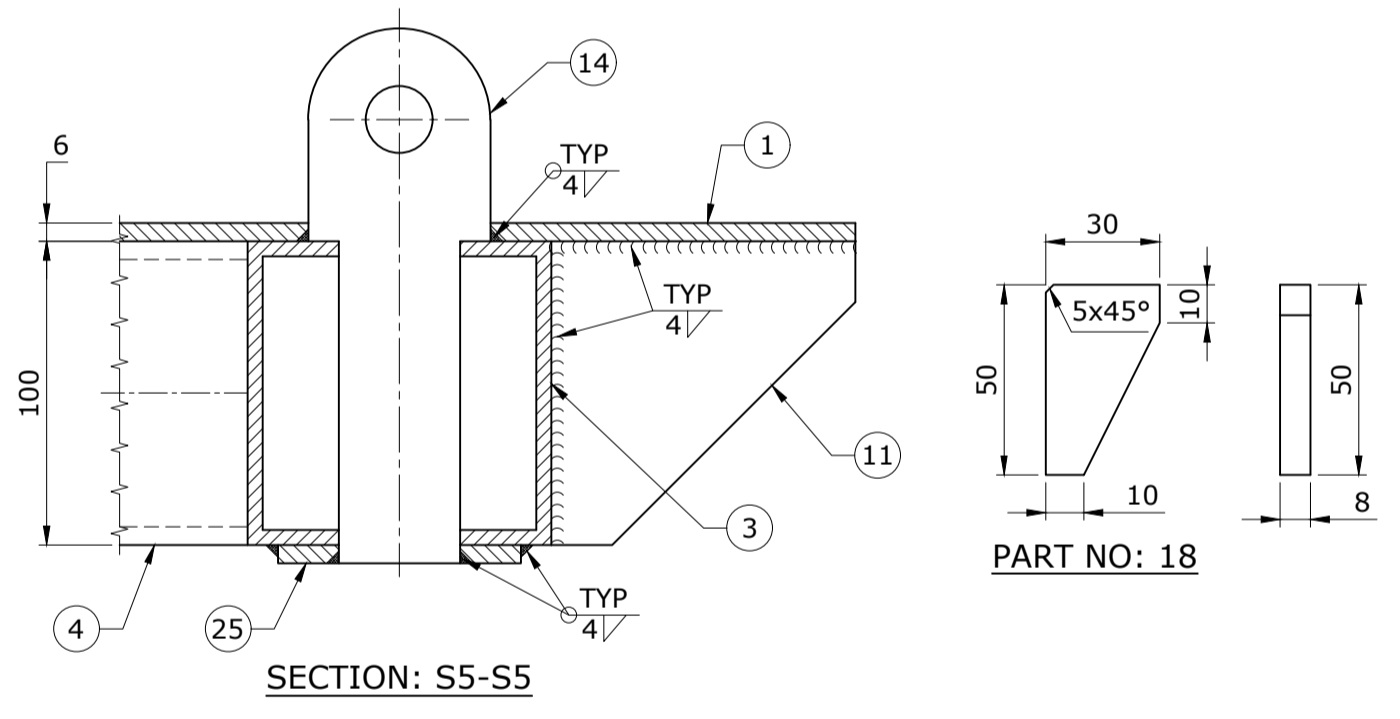
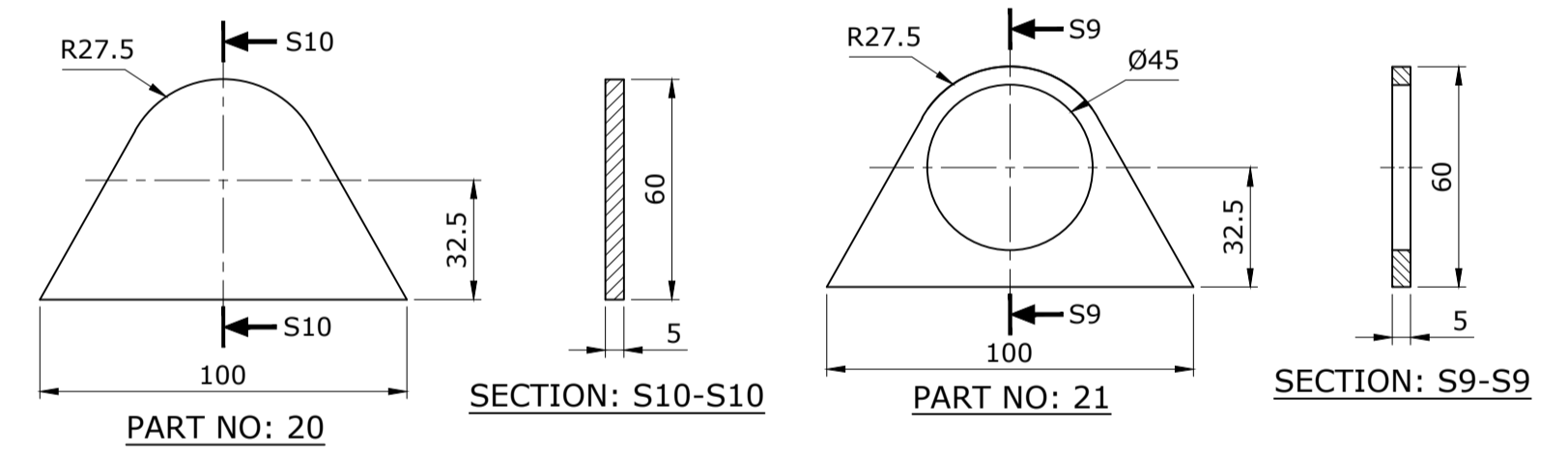
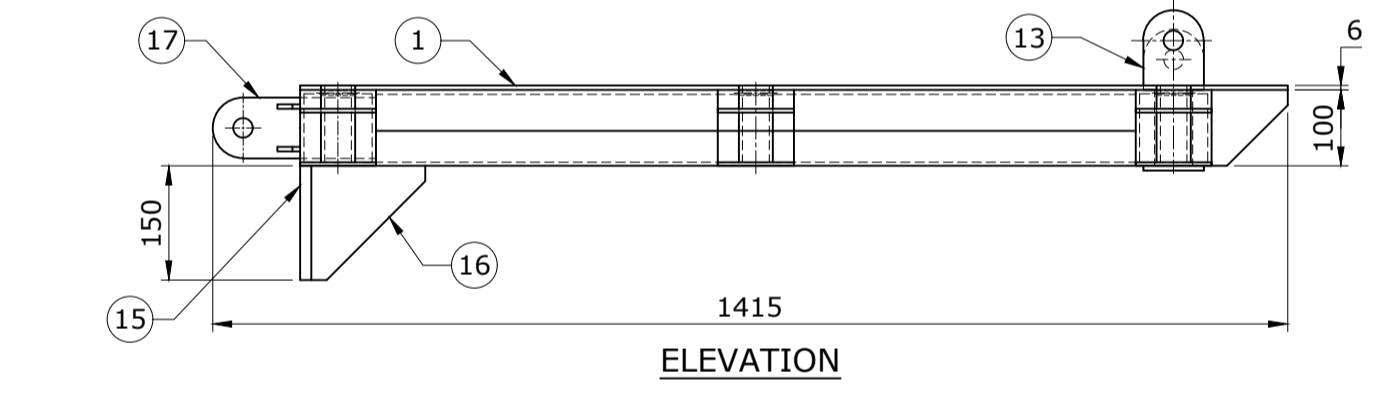
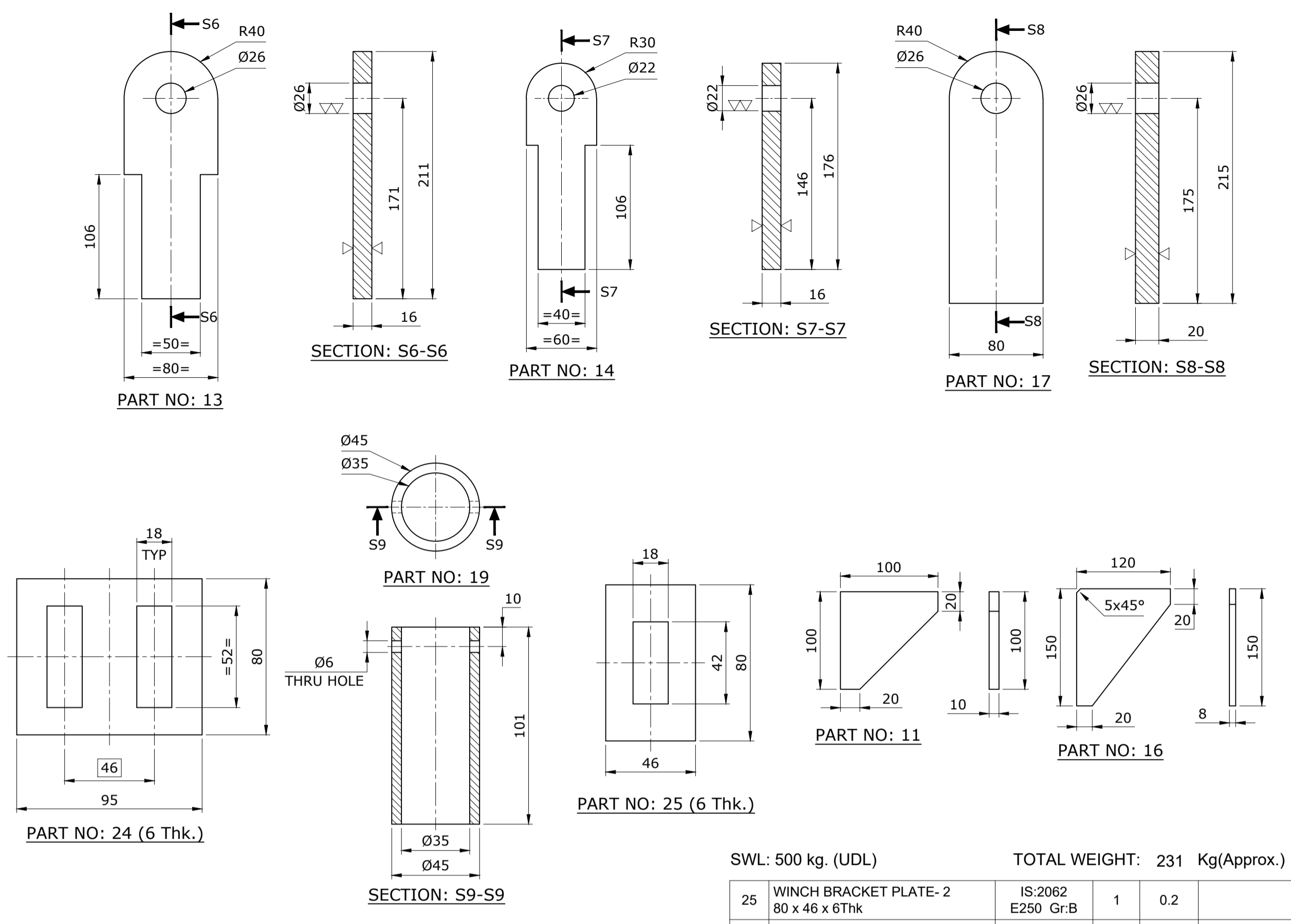
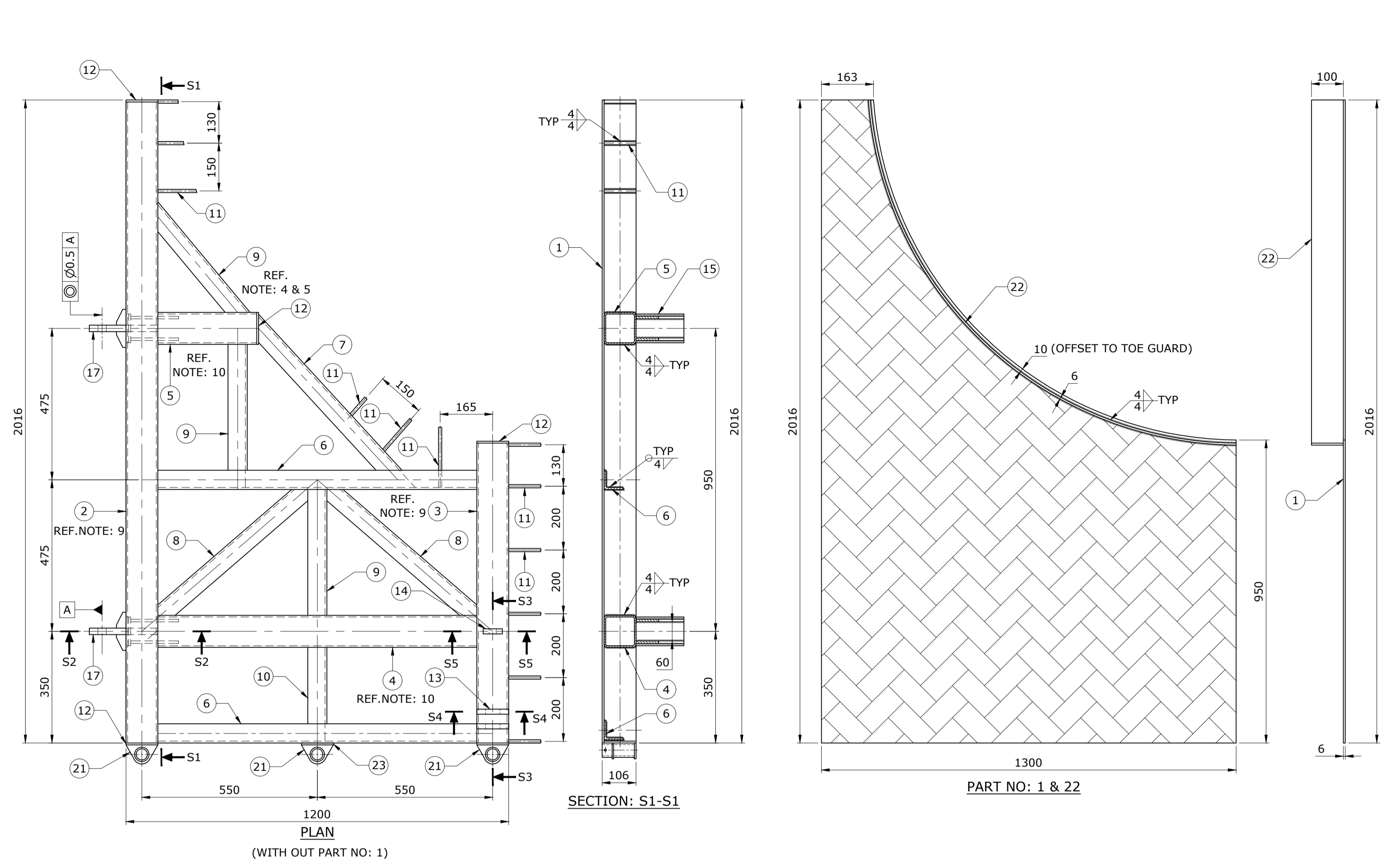
वैमाना / SCALE: आरेखन क्र. / DRG. NO.: 10-STR-12-5-84/A1  
 1 : 10

COMP. FILE NO.: AJ-21

REV. No.: R0

SHEET No.: 5 OF 7

REV.NO.	DESCRIPTION	REFERENCE	ZONE	SIGN & DATE



- NOTES**
- ALL DIMENSIONS SHOWN ARE FINAL MACHINED DIMENSIONS.
  - ALL THE WELDS ARE OF 4 mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
  - ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  - BILL OF MATERIAL SHOWN FOR ONE ASSEMBLY ONLY TOTAL No. OF PLATFORMS REQUIRED ARE 4.
  - CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

FOR DISCUSSION PURPOSE ONLY

SWL: 500 kg. (UDL) TOTAL WEIGHT: 231 Kg(Approx.)

S.NO	DESCRIPTION	MATERIAL	QTY	MASS	REMARKS
25	WINCH BRACKET PLATE- 2 80 x 46 x 6Thk	IS:2062 E250 Gr.B	1	0.2	
24	LOAD ROPE BRACKET PLATE- 2 95 x 80 x 6Thk	IS:2062 E250 Gr.B	1	0.4	
23	HANDRAIL SUPPORT PLATE 100 x 100 x 6Thk	IS:2062 E250 Gr.B	1	1	
22	TOE GUARD 1740 x 100 x 6Thk	IS:2062 E250 Gr.B	1	8	
21	HANDRAIL STIFFENER BASE 100 x 60 x 5Thk	IS:2062 E250 Gr.B	3	1	SUITABLY CUT
20	HANDRAIL STIFFENER TOP 100 x 60 x 5Thk	IS:2062 E250 Gr.B	3	1	SUITABLY CUT
19	HANDRAIL STUB Ø45 x ID35 x 101Lg	IS:2062 E250 Gr.B	3	1	
18	HINGE STIFFENER 50 x 30 x 8Thk	IS:2062 E250 Gr.B	8	1	SUITABLY CUT
17	HINGE BRACKET 215 x 80 x 20Thk	IS:2062 E250 Gr.B	2	5	
16	STOPPER PLATE STIFFENER 150 x 120 x 8Thk	IS:2062 E250 Gr.B	4	5	SUITABLY CUT
15	STOPPER PLATE 150 x 90 x 15Thk	IS:2062 E250 Gr.B	2	3	
14	WINCH BRACKET PLATE- 1 176 x 60 x 16Thk	IS:2062 E250 Gr.B	1	1	
13	LOAD ROPE BRACKET PLATE- 1 211 x 70 x 16Thk	IS:2062 E250 Gr.B	2	4	
12	COVER PLATE 100 x 100 x 6Thk	IS:2062 E250 Gr.B	5	4	
11	STIFFENER (CHQ.PLATE) 100 x 100 x 10Thk	IS:2062 E250 Gr.B	12	9	SUITABLY CUT
10	ISA 60 x 60 x 6Thk - 295Lg	IS:808	1	2	SUITABLY CUT
9	ISA 60 x 60 x 6Thk - 455Lg	IS:808	3	7	SUITABLY CUT
8	ISA 60 x 60 x 6Thk - 560Lg	IS:808	2	6	SUITABLY CUT
7	ISA 60 x 60 x 6Thk - 665Lg	IS:808	1	4	SUITABLY CUT
6	ISA 60 x 60 x 6Thk - 1000Lg	IS:808	2	11	SUITABLY CUT
5	REC. HOLLOW SECTION 100 x 100 x 6Thk - 310Lg	IS:4923 YST : 310Gr	1	5	TATA STRUCTURA
4	REC. HOLLOW SECTION 100 x 100 x 6Thk - 1000Lg	IS:4923 YST : 310Gr	1	17	TATA STRUCTURA
3	REC. HOLLOW SECTION 100 x 100 x 6Thk - 1190Lg	IS:4923 YST : 310Gr	1	20	TATA STRUCTURA
2	REC. HOLLOW SECTION 100 x 100 x 6Thk - 2010Lg	IS:4923 YST : 310Gr	1	34	TATA STRUCTURA
1	CHQ.PLATE 2016 x 1300 x 6Thk	IS:2062 E250 Gr.B	1	80	SUITABLY CUT

REV.NO.	DESCRIPTION	REFERENCE	ZONE	SIGN & DATE

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		

DO NOT SCALE THE DRAWING  
 ASK IF IN DOUBT  
 UNLESS OTHERWISE SPECIFIED,  
 ALL DIMENSIONS ARE IN MILLIMETERS  
 REMOVE SHARP EDGES & BURRS  
 CHAMFER 1 mm. X 45°  
 MACHINING FINISH IN MICRONS -  
 ∇ 8-25 ∇∇ 1.6-8  
 ∇∇∇ 0.025-1.6 ∇∇∇∇ < 0.025

DEVIATION FOR NON TOLERANCE DIMENSIONS IS:2102 (PART-1)-1993	
DIAMETERS & LENGTHS UPTO & INCL 6±0.1	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.
6 - 30 ±0.2	1 - 6 + 1'-00'
30 - 120 ±0.3	6 - 30 + 0'-30'
120 - 315 ±0.5	30-120 + 0'-20'
315 - 1000 ±0.8	120-400 + 0'-10'
1000 - 2000 ±1.2	
2000 - 4000 ±2.0	
4000 & ABOVE ±3.0	

**SCEND**  
 शार केंद्रीय अभिकल्पनाएँ  
 SHAR CENTRAL DESIGNS

शीर्षक / TITLE: **FOLDING PLATFORM DETAILS**  
**SS3 MODULING TOWER, SLC PROJECT**

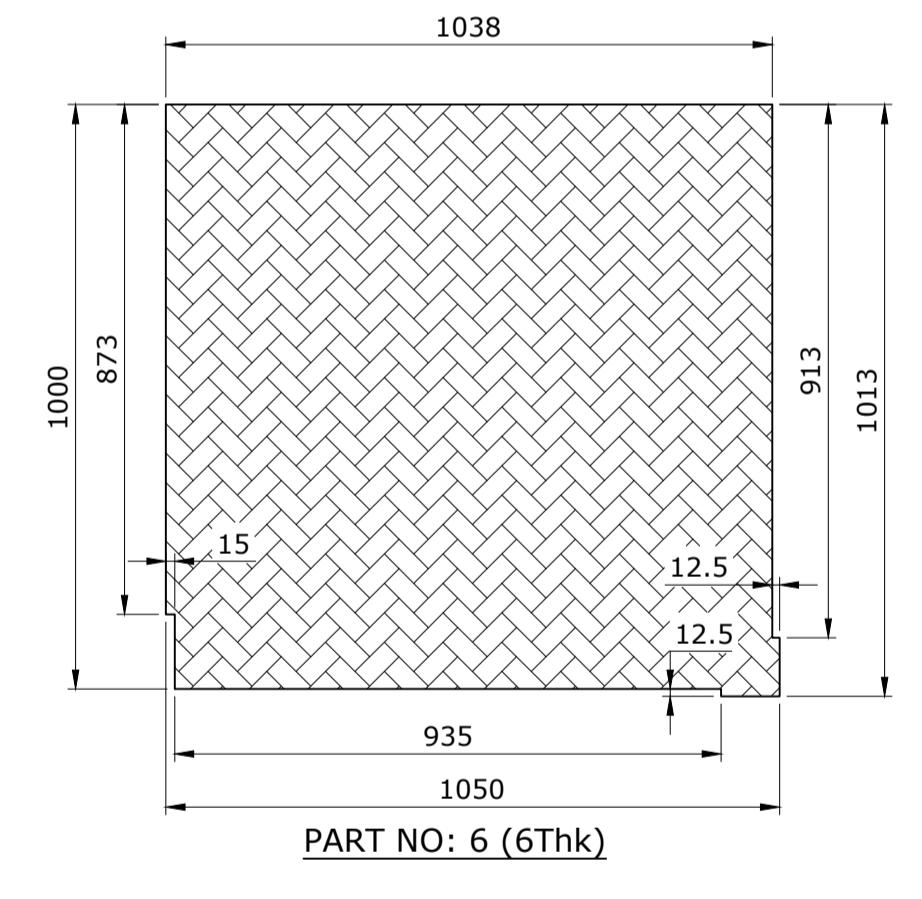
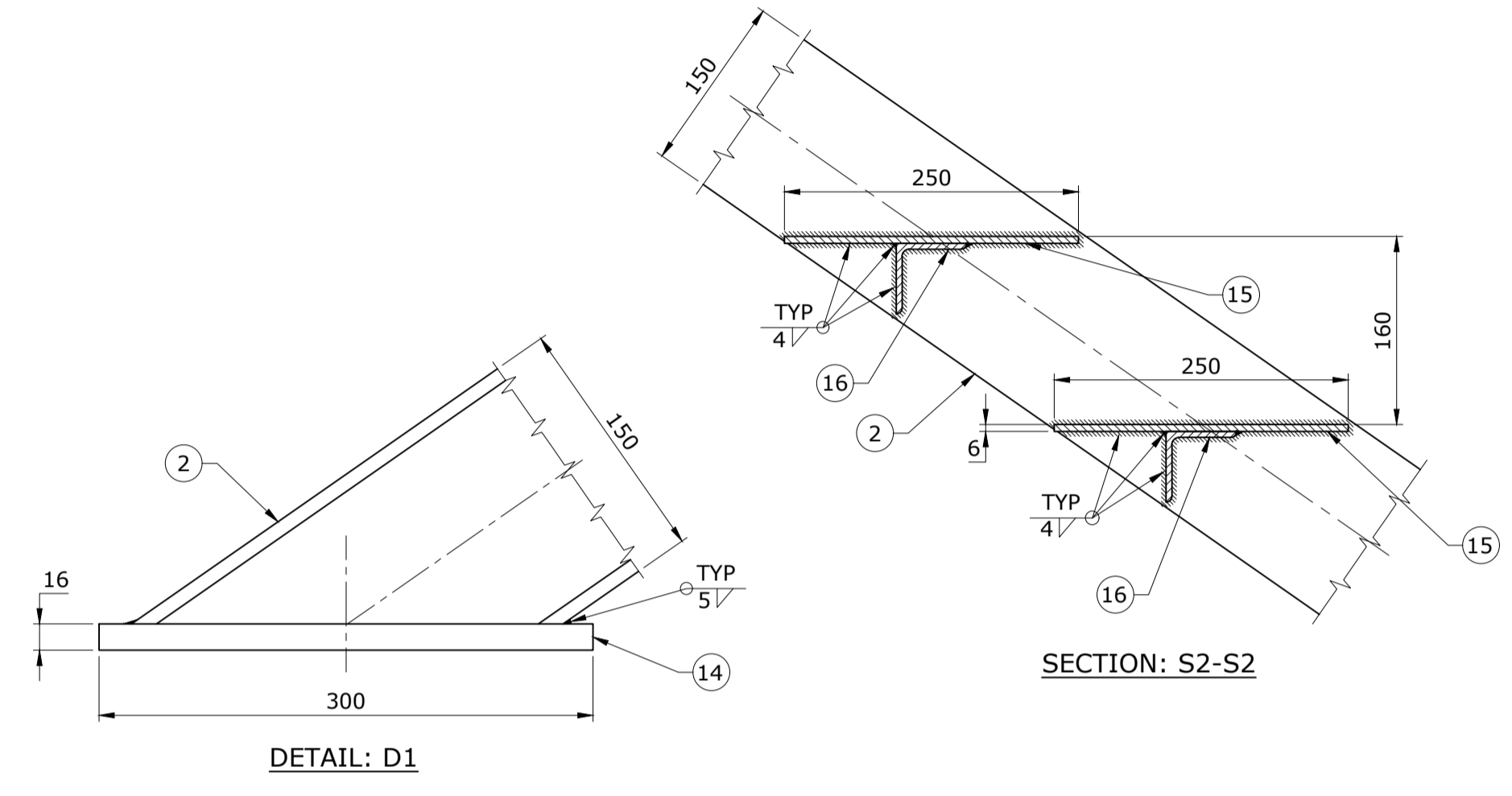
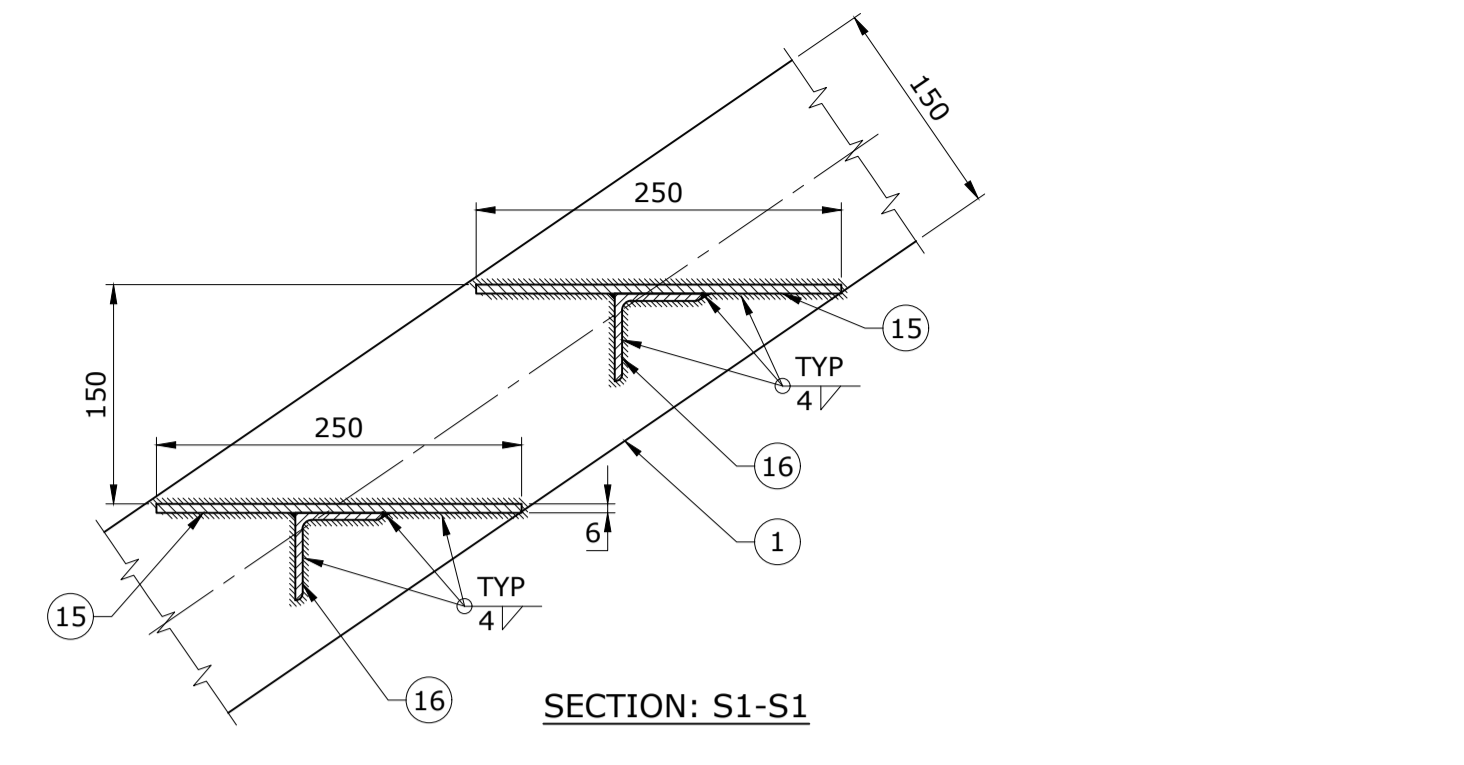
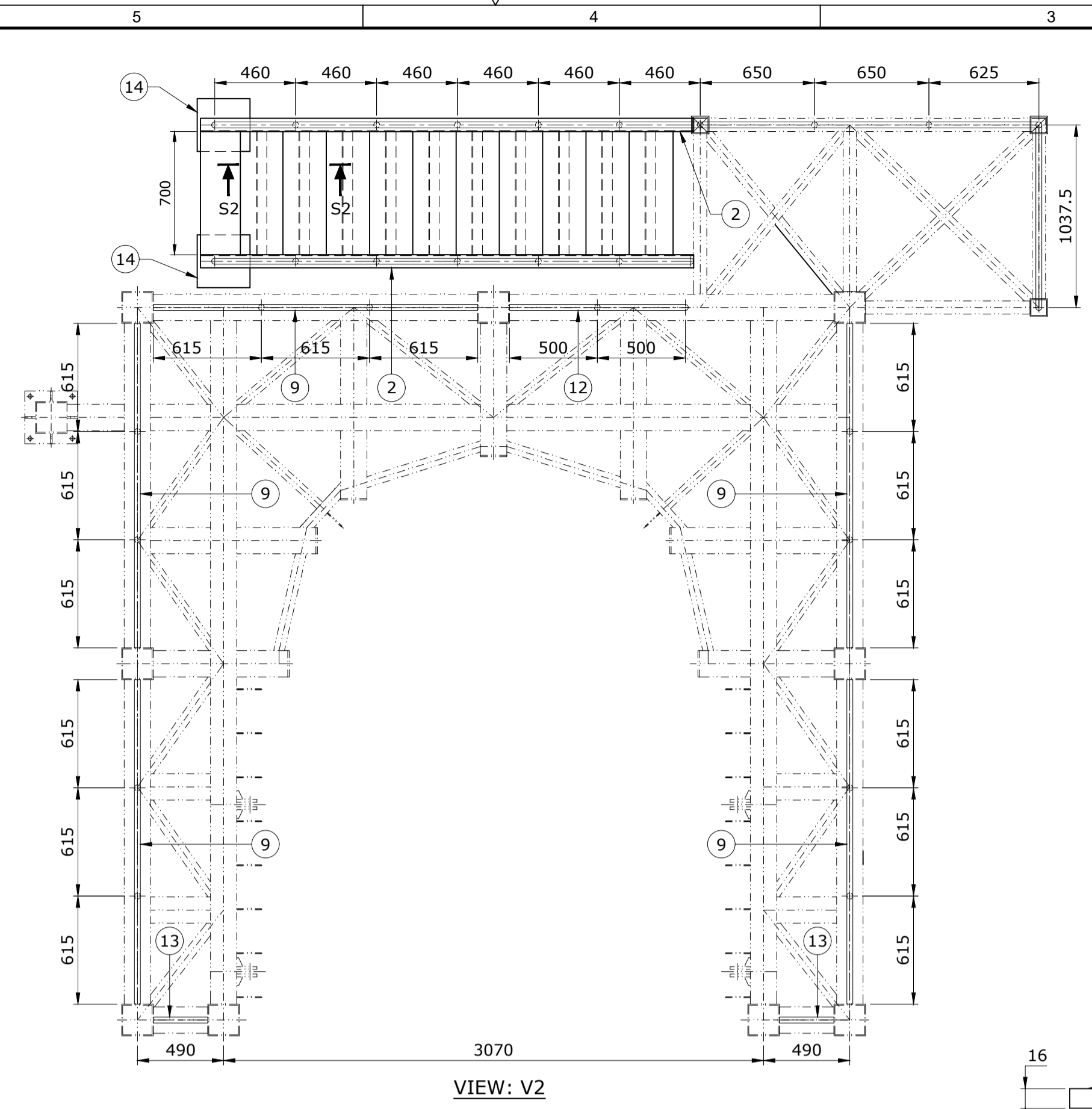
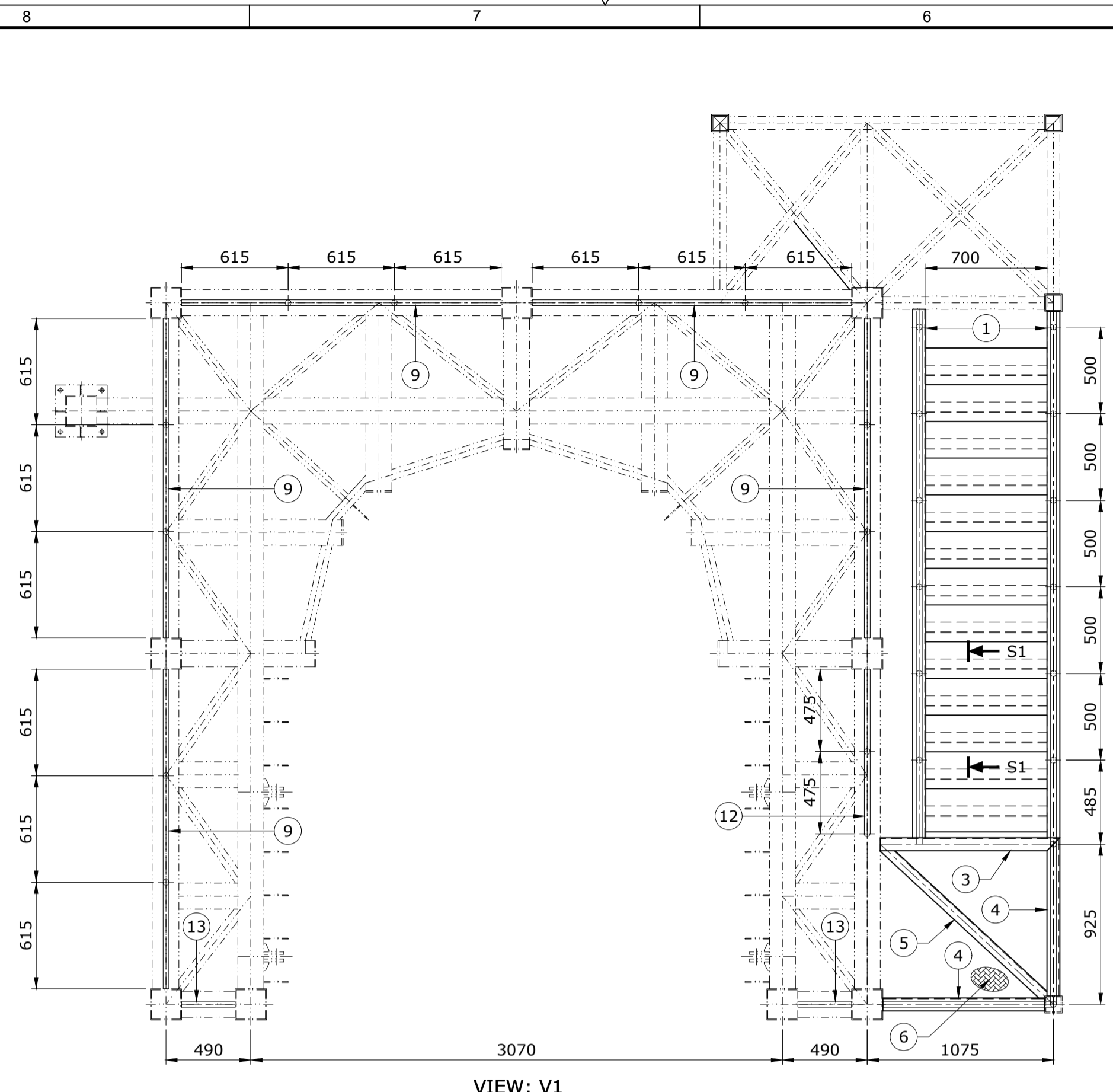
भारत सरकार GOVERNMENT OF INDIA  
 भारतीय अंतरिक्ष अनुसंधान संगठन INDIAN SPACE RESEARCH ORGANISATION  
 सतीश धवन अंतरिक्ष केंद्र, शार SATISH DHAWAN SPACE CENTRE SHAR,  
 श्रीहार्किता SRIHARIKOTA.

डिज़ाइन: KAMAL S.  
 ड्रॉइंग: SREENU P.  
 रीविज: P.S.SAI  
 अनुमोदित: KANISH KUMAR

दिनांक / SCALE: आरेखन क्र. / DRG. NO.: 10-STR-12-5-84/A1  
 1 : 10

COMP. FILE NO.: AJ-21  
 REV. No.: RO

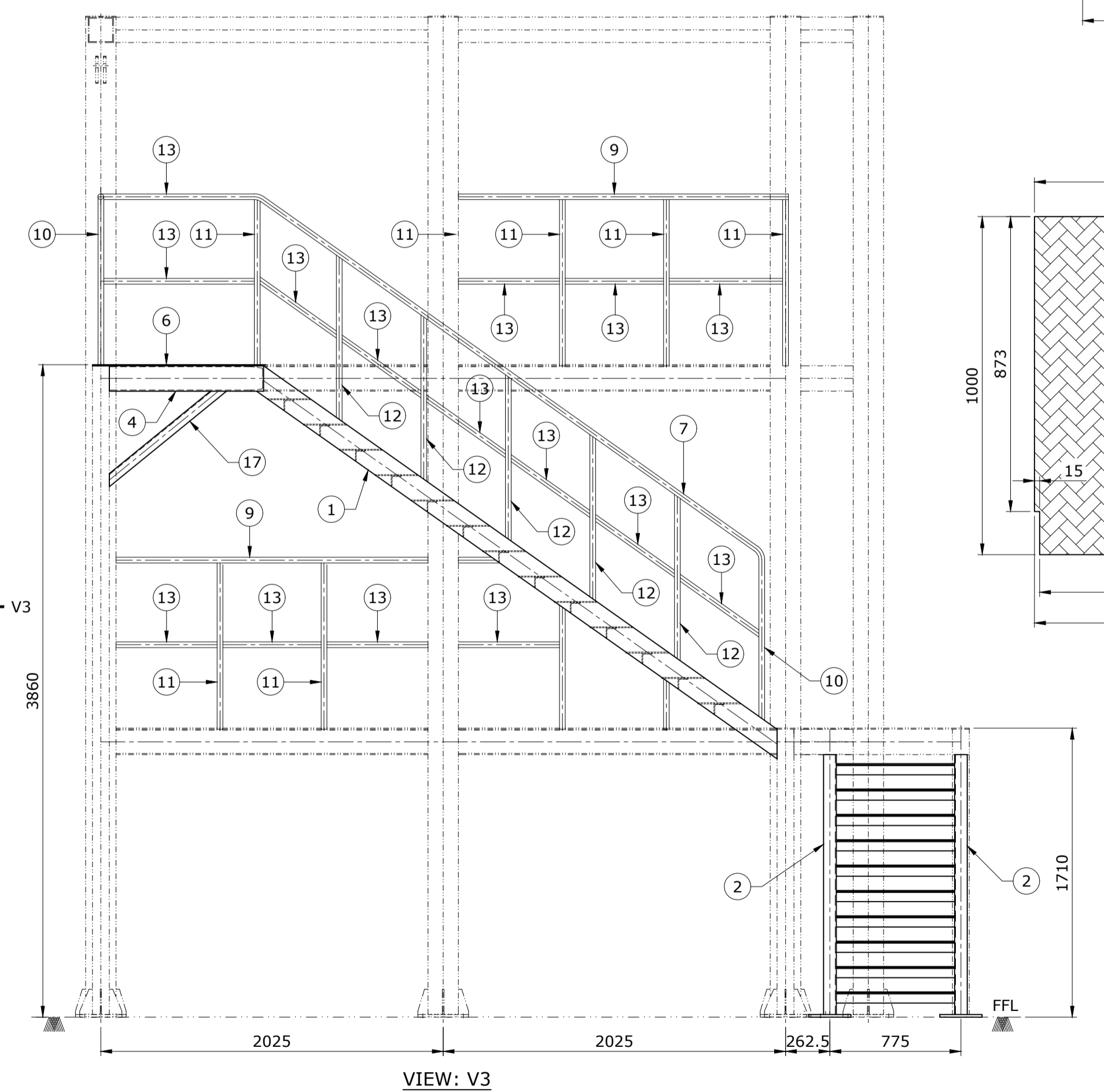
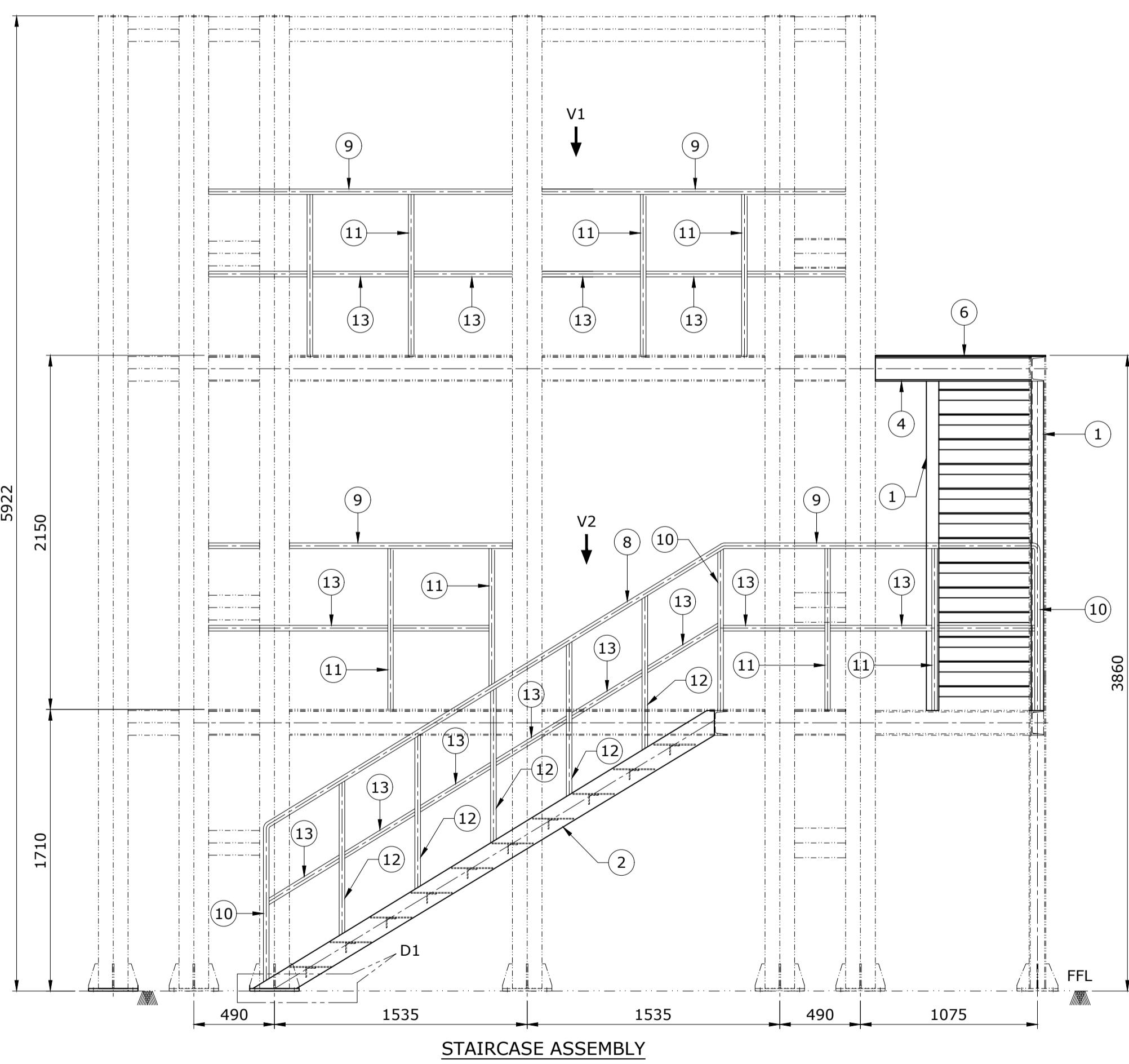
पृष्ठ / PROJECTION: 6 OF 7



FOR DISCUSSION PURPOSE ONLY

TOTAL WEIGHT 1006 Kg(Approx).

S.NO	DESCRIPTION	MATERIAL	QTY	MASS	REMARKS	
17	ISA 60 x 60 x 6Thk- 900Lg	IS:808	1	5	TATA STRUCTURAL (SUITABLY CUT AND WELD)	
16	ISA 60 x 60 x 6Thk- 700Lg	IS:808	23	87		
15	PLATE 700 x 250 x 6Thk	IS:2062 E250 Gr-B	23	190		
14	PLATE 300 x 300 x 16Thk	IS:2062 E250 Gr-B	2	23		
13	25NB PIPE OD33.7xWALL Thk4mm- 600Lg	IS:4923 YST : 310Gr	50	84		
12	25NB PIPE OD33.7xWALL Thk4mm- 960Lg	IS:4923 YST : 310Gr	24	68		
11	25NB PIPE OD33.7xWALL Thk4mm- 985Lg	IS:4923 YST : 310Gr	26	75		
10	25NB PIPE OD33.7xWALL Thk4mm- 1000Lg	IS:4923 YST : 310Gr	10	29		
9	25NB PIPE OD33.7xWALL Thk4mm- 1845Lg	IS:4923 YST : 310Gr	12	65		
8	25NB PIPE OD33.7xWALL Thk4mm- 3400Lg	IS:4923 YST : 310Gr	2	20		
7	25NB PIPE OD33.7xWALL Thk4mm- 3700Lg	IS:4923 YST : 310Gr	2	22		
6	CHQ.PLATE 1050 x 1013 x 6Thk	IS:808	1	50		SUITABLY CUT&WELD
5	ISA 60 x 60 x 6Thk - 1245Lg	IS:808	1	7		SUITABLY CUT&WELD
4	ISMC150- 935Lg	IS:808	2	31		
3	ISMC150- 1040Lg	IS:808	1	17		
2	ISMC150- 3235Lg	IS:808	2	109		
1	ISMC150- 3730Lg	IS:808	2	125		



- NOTES:**
- ALL DIMENSIONS SHOWN ARE FINAL MACHINED DIMENSIONS.
  - ALL THE WELDS ARE OF 4mm SIZE FILLET UNLESS OTHERWISE SPECIFIED.
  - ALL WELDS ARE TO BE DP TESTED FOR ROOT AND FINAL PASSES TO ENSURE WELD QUALITY.
  - CHECK THE STATUS OF THE DRAWING BEFORE FABRICATION / MACHINING.

REV.NO.	DESCRIPTION	REFERENCE	ZONE	SIGN & DATE

STATUS	SIGN	DATE
DISCUSSION / REVIEW		
TENDER PURPOSE		
FABRICATION		

DO NOT SCALE THE DRAWING  
 ASK IF IN DOUBT  
 UNLESS OTHERWISE SPECIFIED,  
 ALL DIMENSIONS ARE IN MILLIMETERS  
 REMOVE SHARP EDGES & BURRS  
 CHAMFER 1 m.m. X 45°  
 MACHINING FINISH IN MICRONS -  
 ∇ 8-25 ∇∇ 1.6-8  
 ∇∇∇ 0.025-1.6 ∇∇∇∇ <0.025

DEVIATION FOR NON TOLERANCE DIMENSIONS IS:2102 (PART-1)-1993	
DIAMETERS & LENGTHS UPTO & INCL 6±0.1	LENGTH IN M.M. OF SHORTER SIDE OF ANGLE UPTO & INCL.
6 - 30 ±0.2	1- 6 + 1'-00'
30 - 120 ±0.3	6- 30 + 0'-30'
120 - 315 ±0.5	30-120 + 0'-20'
315 - 1000 ±0.8	120-400 + 0'-10'
1000 - 2000 ±1.2	
2000 - 4000 ±2.0	
4000 & ABOVE ±3.0	

**स्केंड SCEND**  
 शार केंद्रीय अभिकल्पनाएँ  
**SHAR CENTRAL DESIGNS**

शीर्षक / TITLE: **STAIR CASE & HANDRAIL DETAILS**  
 SS3 MODULING TOWER, SLC PROJECT

भारत सरकार / GOVERNMENT OF INDIA  
 भारतीय अंतरिक्ष अनुसंधान संगठन / INDIAN SPACE RESEARCH ORGANISATION  
 सतीश धवन अंतरिक्ष केंद्र, शार / SATISH DHAWAN SPACE CENTRE SHAR,  
 श्रीहरिकोटा / SRIHARIKOTA.

वैमान / SCALE: 1 : 10  
 आरेखन क्र. / DRG. NO.: 10-STR-12-5-84/A1  
 COMP. FILE NO.: AJ-21

प्रक्षेप / PROJECTION:

शेड नं. / SHEET No.: 7 OF 7