

 BHEL Tenders	Government eProcurement System Published Corrigendum Details
	Date : 17-Aug-2026 08:37 AM

 Print

Organisation Chain :	Bharat Heavy Electricals Limited EDN - Bangalore CEMM
Tender ID :	2026_BHEL_63690_1
Tender Ref No :	PACKING CONTRACT 26-27
Tender Title :	PACKING CONTRACT-EDN,ESD 2026-27
Corrigendum Type :	Date

Corrigendum:1

Corrigendum Title	Corrigendum Description	Published Date	Document Name	Doc Size(in KB)
Extension of due-date	Extension of due-date upto 19.08.2026,16.00 hrs.	17-Aug-2026 08:30 AM	NITdocument.pdf 	9804.16

<u>Critical Dates</u>			
Publish Date	05-Aug-2026 05:50 PM	Bid Opening Date	19-Aug-2026 04:05 PM
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Clarification Start Date	05-Aug-2026 05:50 PM	Clarification End Date	17-Aug-2026 04:35 PM
Bid Submission Start Date	05-Aug-2026 05:55 PM	Bid Submission End Date	19-Aug-2026 04:00 PM

Details Before Corrigendum

<u>Critical Dates</u>			
Publish Date	05-Aug-2026 05:50 PM	Bid Opening Date	17-Aug-2026 01:05 PM
Document Download/Sale Start Date	05-Aug-2026 05:50 PM	Document Download/Sale End Date	17-Aug-2026 01:00 PM
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Bid Submission Start Date	05-Aug-2026 05:55 PM	Bid Submission End Date	17-Aug-2026 01:00 PM

**BHEL-ELECTRONICS DIVISION, BENGALURU
COMMON CONTRACTING DEPARTMENT**

NOTICE INVITING TENDER

1.	Tender Ref No:	BHEL-EDN/ CCD/PACKING CONTRACT-EDN & ESD/ 2026-27
2.	Tender Type	Open Tender -Two part (e-Tender)
3.	Name of works	Rate contract for supply of packing materials and Packing of CE Products, Traction equipment and allied components for period of One Year at EDN and ESD
4.	Location of work	BHEL-EDN & ESD, BANGALORE
5.	Period of contract	Twelve months from the date of award of contract.
6.	Estimated value of complete tendered works	₹13,02,73,300/- (excluding GST)
7.	Earnest Money Deposit Amount	As per B: Pre-qualification criteria : Earnest money deposit(EMD)
8.	Contents of Tender Document.	A] Part-I Technical Bid ANNEX-1A (Technical Bid-Qualifying Criteria) ANNEX -1B (Scope of Work & Technical Terms and Conditions)-Detailed one is also attached at the end of this document. ANNEX -1C (General Terms & Conditions of Contract) ANNEX -1D (Special Terms & Conditions of Contract) ANNEX - A (No Deviation Certificate) ANNEX - B (Declaration) ANNEX - C (EMD payment Instruction E-COLLECT) ANNEX - D (EFT Format) ANNEX - E (BG format for EMD amount in excess of Rs.2 Lakhs) ANNEX - F (List of Consortium Banks) ANNEX- G (Integrity Pact) ANNEX- H (GFR Declaration) ANNEX- I (Make in India Local Content Declaration) B] Part- II Price Bid ANNEX -II (Price bid)(For Reference only) – P.No.64-68
9.	Submission of offer	To be submitted electronically by logging to e-Procurement portal https://eprocurebhel.co.in/nicgep/app
10.	Due date and time for submission of offer	17.08.2026/ 13:00 Hr.
11.	Due date and time for opening of Technical bid	17.08.2026/ 13:30 Hr. ; extended up to 19.08.2026/ 16:00 Hr.
12.	Contact details for queries related to tender	Mr. Mounish.G , Manager / CCD, BHEL-EDN, Bengaluru. Contact No:080 2699 8285 / 9611121422; e-mail: mounishg@bhel.in ; jpuriyar@bhel.in

ANNEXURE-1A**PART-I (TECHNO COMMERCIAL BID)****INSTRUCTIONS TO THE TENDERER**

- The bidder shall submit the bid online by logging in to user account of bidder on e-procurement portal of BHEL as specified in NIT. Offer submitted by any other mode is not acceptable.
- The bidder has to upload the scanned copy of all the mentioned original documents (in colour) during online bid submission. It is advised that all the documents to be submitted are kept scanned or converted to PDF format in a separate folder in their computer before starting online submission.
- Bidder shall ensure that the total size of the scanned documents to be uploaded remains minimum. If required, documents may be scanned at lower resolutions say at 150 dpi. However, it shall be sole responsibility of bidder that the uploaded documents remain legible.
- The tender documents must be signed digitally / physically by Partner/ Director of the Firm or by the person holding the Power of Attorney on behalf of the Firm concerned for having accepted the conditions and upload in e-procurement portal. In the latter case, a copy of Power of Attorney, duly attested by a Notary Public must accompany the offer.
- Bidder are advised not to wait till the last minutes or last few seconds w.r.t tender closing time to submit their offer to avoid complications related with internet connectivity / network problem/ power failure etc.
- Tenderer should arrange for the EMD as specified in the tender. EMD should be submitted as per Part-I [A]/Prequalification Bid/EMD.
- In case EMD is paid through offline payment mode, the original should be posted/couriered/given in person in a sealed cover super scribing 'Tender number/date/Part-I(A)/EMD' to the Tender Inviting Authority, within the bid submission date and time for the tender.
- Techno-commercial bid will be considered only, if the Part-I(A)/Prequalification Bid/EMD is valid. EMD in any other form or tender without EMD will be summarily rejected.
- In case of offline payments, the hardcopies of Earnest Money Deposit (EMD) document/ DD submitted to CCD/BHELEDN, Bengaluru and the soft-copies uploaded at the time of online bid submission should be the same, otherwise the tender will be summarily rejected.
- Any deviation to this tender terms & conditions, and schedules of this tender will lead to rejection of the offer.
- Tenderer who have been suspended or black listed or issued with "Show Cause Notice" by **BHEL-EDN, Bengaluru** or any other unit of BHEL or GOI will not be allowed to participate in the tender and bidder should declare the same in the tender. Even during the course of evaluation/ finalization of tender if it is found that the tenderer is black listed/ barred from business transaction/ under business hold, BHEL will not consider them for further participation in the tender.
- Should a tenderer find discrepancies or omissions in the tender documents, or should there be any doubt as to their meaning, he should at once address the authority inviting the tender, for clarification well before the due date, so as to submit his tender in time. No extension of time shall be given for submission of the tender on any account.
- Rates should be quoted as per the Work / Rate schedule (Price bid/Part –II [B]). Rates quoted in any other form will not be accepted and will be rejected.
- If a tenderer deliberately gives wrong information in his tender or creates conditions favourable for the acceptance of his tender, the BHEL will reject such offer at any stage.
- Words imparting singular number shall be deemed to include plural number and vice-versa where the context so requires.
- Canvassing in any form in connection with tenders is strictly prohibited and the tenders submitted by the Contractors who resort to canvassing will be liable for rejection.
- Should a Tenderer's or a Contractor's or in the case of a firm or company of contractors/any of its shareholder's or shareholder's relative is employed in BHEL, the authority inviting the tenders shall be informed in writing of this fact at the time of submission of the tender, failing which the tender may be disqualified, or if such fact subsequently comes to light, the contract may be cancelled.

- The tender schedule, and the tender shall be deemed to form an integral part of the contract to be entered into for this work.
- BHEL reserves the right to cancel the tender at any stage without assigning any reason.
- **Before submission of offer, the Tenderer is advised to inspect the site of work and its environment and be well acquainted with the actual working and other prevailing conditions including various best practices adopted by BHEL with respect to position of the materials and labour.**

Check list for submission of offer

Bidder shall submit the offer in two parts as Part-I (Techno-commercial Bid) and Part-II (Price Bid) **Part –I (Techno commercial bid)** shall contain following documents:

a) EMD related documents b) Pre-qualification related documents c) Signed Tender document.

The documents to be contained in Techno commercial bid are as follows:

- EMD related documents to meet EMD Criteria.
- Pre-qualification related documents to meet Technical Competency Criteria, Financial Soundness Criteria and Statutory registration criteria.
- Signed Tender document and duly filled and signed ANNEXUREs (as applicable) for unconditional acceptance to tender Scope of work and Terms & Conditions.

Part-II (Price Bid) comprises of single cover

a) Price bid Cover

Price bid cover shall contain rates quoted as per price bid format available in e-Procurement portal.

Sl. No	Description	Remarks
1	Check list for Part-I: Techno commercial Bid (EMD related documents)	
1.1	Documentary evidence to meet EMD Criteria: 1. Copy of Payment Receipt for EMD amount as per tender. (As applicable) 2. Bank Guarantee in lieu of remaining EMD amount above ₹ 2 Lakhs, (As applicable)	☐ uploaded / ☐ Not uploaded
	a. EMD may be submitted in the form of Cash deposit (Before tender opening) / Bankers Cheque / Pay order / DD / FDR drawn in favour of BHEL-EDN, Bengaluru (Along with offer)/ EFT payment details vide SBI Collect as EMD / NEFT (Before tender opening)/ /Insurance Surety Bonds. Details for making online payment is at ANNEXURE-C b. EMD is not waived off for MSE bidders. c. In addition to the above, If EMD amount is more than ₹2 lakhs, first part of EMD of ₹2 Lakhs can be submitted in the form of Cash deposit /DD/ FDR/ Bankers cheque / Pay order /EFT / online payment and remaining amount over and above ₹2 Lakhs by the way of Bank Guarantee from scheduled bank / Nationalized Bank / Consortium bank. The bank guarantee in such cases shall be valid for at least six months. (Relevant BG Format is attached at ANNEXURE-E). List of Consortium banks attached at ANNEXURE-F.	
2	Check list for Part-I: Techno Commercial Bid (Pre-Qualification related documents)	

2.1	Documentary evidence in support of Organization / Firm Registration as registered / licensed companies / firms / proprietors / partnerships Duly signed and sealed copy of 1) Trade License / GST registration / Auditor's letter / PAN or 2) Partnership Deed Copy of Extract from Register of Firms showing latest constitution of Firm (Form A /G/any other form as the case may be) Trade License / GST Certificate and PAN or 3) Partnership Deed, Notarised Declaration as to the constitution of Firm signed by all the Partners and Trade License, GST Certificate and PAN or 4) Certificate of Incorporation / Memorandum of Association & Articles of Association	1.Applicable Document ☐ Uploaded / ☐ Not uploaded
2.2	Self-attested copy of the Power of Attorney, in case an individual/authorized signatory other than the sole proprietor signs the tender.	1.Copy of Power of Attorney ☐ Uploaded / ☐ Not uploaded
2.3	Documentary evidence to meet Technical Competency Criteria as per C.3 of C: Pre- qualification Criteria: Technical competency & financial soundness 1) Duly signed and sealed copy of WO / PO / Agreement / Completion certificate. 2) Form 26AS / TDS certificate with customer name as name of deductor for financial year in which work was carried out or Bank statement showing transaction with customer during execution of contract	1. WO / PO / Agreement copy / Completion Certificate ☐ uploaded / ☐ Not uploaded 2.Form 26AS / TDS Certificate / Bank Statement ☐ uploaded / ☐ Not uploaded

2.4	Documentary evidence to meet Financial Soundness Criteria as per C.4 of C: Pre- qualification Criteria: Technical competency & financial soundness. Duly signed and sealed copy of 1) Income Tax Return (ITR) 2) Balance Sheet & Profit and loss Statement. (For last three consecutive years ending on 31st March 2023 (2020-21, 2021-22 and 2022-23) 3) Income Tax Registration (PAN) 4) GST Registration.	1.Income Tax Returns ☐ Uploaded / ☐ Not uploaded for 1year / 2 years / 3 years 2.Balance Sheet & profit and loss Statement (Audited) ☐ Uploaded / ☐ Not uploaded for 1year / 2 years / 3 years
3	Check list for Part-I: Techno commercial Bid (Tender Scope and Terms & conditions related document)	
3.1	Documentary evidence for unconditional acceptance to Tender Scope of work and Terms & Conditions. Duly filled, signed and Sealed copy of 1. Complete Tender Document. 2. "No Deviation Certificate "as per ANNEXURE-A in letter head. 3. "Declaration" as per ANNEXURE -B in letter head. 4. Integrity Pact. 5. GFR Declaration 6. Make in India Local content Declaration	1. Duly filled and Signed "Tender Document" 2. Duly filled and Signed "Declaration" 3. Duly filled and Signed "No Deviation Certificate" 4. Integrity Pact. 5. GFR Declaration 6. Make in India Local content Declaration ☐ uploaded / ☐ Not uploaded
4	Rates quoted as per Price bid format available on NIC portal.	☐ Quoted as per tender format ☐ Not Quoted as per tender format.
5	All the information and relevant documents as asked in tender.	☐ Provided / ☐ Not Provided
Bidders are kindly requested to submit their offer as follows 1) Documents pertaining to each cover shall be uploaded as single pdf containing all relevant documents as stated above. 2) No additional documents other than above shall be uploaded as no weightage or preference will be given for additional documents.		

ANNEXURE-1A**PART-I (TECHNO COMMERCIAL BID)****A: (Bidders Profile)**

1.	Name of the Enterprise/ Company/ Firm.	
2.	Name of Directors / Partners / proprietor of Enterprise/ Company/ Firm	
3.	Registered Address of Enterprise/ Company/ Firm	
4.	Contact Details: Landline /Mobile number:	
5.	E-mail Address for communication w.r.t tender	E-mail ID:
6.	Name and Contact details of person for communication related to Tender	Name: Mobile No:

7.	Status of Firm as MSME / Start-up recognized by DPIIT	☐ Micro ☐ Small ☐ Medium ☐ Start-up recognized by DPIIT ☐ None of the above (Supporting document to be enclosed)
8.	BHEL Vendor Code (If any)	

B: Pre- qualification Criteria: Earnest Money Deposit (EMD)

B.1	Earnest Money Deposit (EMD)		
	Bidder shall submit Earnest Money Deposit (EMD)		
	SL NO	QUALIFYING PARAMETER	QUALIFYING VALUE
	1	EMD (Earnest Money Deposit):	₹20,00,000/-
	Details of EMD payment by Bidder		1. DD/ FDR / PAY ORDER / RTGS DETAILS: AMOUNT: ₹20,00,000.00/- INST. NO: INST. DATE: ISSUING BANK:

		2.DD/ FDR/PAY ORDER /RTGS DETAILS: AMOUNT: ₹ 2,00,000.00/- RECEIPT NO: RECEIPT DATE: BANK DETAILS: AND BANK GUARANTEE DETAILS: AMOUNT: ₹18,00,000.00/- BG NO: BG DATE: BANK DETAILS: BG VALIDITY: Six months (BG for full value of EMD amount is not acceptable and will lead to rejection of offer)
	Documents to be submitted	
	EMD may be submitted in following ways: i) Electronic fund transfer credited in BHEL account (Before Tender Opening). (Refer Annexure –C for making EMD payment through SBI-E collect)	
	ii) In the form of Cash deposit (Done before tender opening) / Bankers Cheque / Pay order / DD / FDR (Along with offer) drawn in favour of BHEL-EDn Bengaluru, payable at Bengaluru issued by Scheduled Bank / Nationalized bank /Consortium banks. iii) In addition to the above, If EMD amount is more than ₹2 lakhs, first part of EMD of ₹2 Lakhs can be submitted in the form of Cash deposit /DD/ FDR/ Bankers cheque / Pay order /EFT / online payment and remaining amount over and above ₹2 Lakhs by the way of Bank Guarantee from scheduled bank / Nationalized Bank / Consortium bank. The bank guarantee in such cases shall be valid for at least six months. (BG Format is attached at ANNEXURE-E). List of Consortium banks attached at ANNEXURE-F. iv) EMD is not waived off for MSE bidders. EMD in any other form (One Time EMD, BG for full amount of EMD etc.) is not acceptable.	
Duly filled copy of the above along with supporting document to be uploaded in e-procurement portal.		

C: Pre- qualification Criteria: Technical competency & financial soundness

C.1	ORGANIZATION / FIRM REGISTRATION		
1	Registered / licensed companies / firms / proprietors / partnerships are eligible for participating in this Tendering Process. Wherever “Companies Act 2013”is applicable the Company shall be registered in line with “Companies Act 2013”.		
	Organization / Firm Business Entity	☐ Sole proprietorship / ☐ Partnership ☐ Private Limited Company / ☐ Public Limited Company ☐ Public Sector / ☐ Govt. Org / ☐ Others (Pl. Specify) (Supporting document to be enclosed)	
	Details of Organization / Firm Registration	Registration Details Copy of registration under relevant act for carrying out the nature of work for which this tender is invited, to be enclosed.	
	The details of the registration Documents to be submitted are below:		
	1	Sole Proprietorship	Trade License / GST registration / Auditor’s letter / PAN

	2	Partnership	Partnership Deed Copy of Extract from Register of Firms showing latest constitution of Firm (Form A /G/any other form as the case may be) , Trade License / GST Certificate and PAN
	3	Unregistered Partnership	Partnership Deed, Notarized Declaration as to the constitution of Firm signed by all the Partners and Trade License , GST Certificate and PAN
	4	Private Limited Company	Certificate of Incorporation / Memorandum of Association & Articles of Association
	5	Public Limited Company	Certificate of Incorporation / Memorandum of Association & Articles of Association
	6	Public Sector / Govt. org.	Certificate of Incorporation / Memorandum of Association & Articles of Association

C.2	POWER OF ATTORNEY:		
	The tender documents should be signed by authorized signatory. Authorized signatory shall be the person holding 'power of attorney' on behalf of the firm/company/bidder-concerned authorized/ empowered to act on behalf for the specific purpose. BHEL will not be bound by any other Power of Attorney granted or the change in the composition of the firm made, subsequent to the execution of the Contract agreement. They may however recognize such Power of Attorney or change in status after obtaining legal advice and the cost involved in that connection shall be chargeable to the bidder concerned. Documents to be submitted: A self-attested copy of the Power of Attorney, in case an individual/ authorized signatory other than the sole proprietor signs the tender shall be submitted along with the tender.		
C.3	TECHNICAL COMPETENCY		
	Bidder shall have experience of having successfully executed similar works over the <i>last seven years</i> ending last day of month previous to the one in which applications are invited, as per following details:		
	SL NO	QUALIFYING PARAMETER	QUALIFYING VALUE
C.3.1	1	Similar works means supply of packing materials with packing works OR supply of packing materials like packing boxes/shooks.	Three similar completed works costing not less than Rs.260 LAKHS Or Two similar completed work costing not less than Rs.325 LAKHS Or One similar completed work costing not less Rs. 521 LAKHS

	Details of Works executed Bidder	WO/ PO Ref No:: Name of the work: WO /PO Value: WO /PO Contract Period: Name of Customer:.....
	Details of Works executed by Bidder	WO/ PO Ref No:: Name of the work: WO /PO Value: WO /PO Contract Period: Name of Customer:.....

	Details of Works executed by Bidder WO/ PO Ref No:: Name of the work: WO /PO Value: WO /PO Contract Period: Name of Customer:.....						
	Documents to be submitted by bidder						
	WO / PO / Agreement Copy relevant to above mentioned work: () Enclosed / () Not Enclosed OR Performance /Completion Certificate for satisfactory execution of above mentioned work: () Enclosed / () Not Enclosed AND Form 26AS/ TDS certificate / Bank statement for payment received from customer against the above contract: () Enclosed / () Not Enclosed						
C.4	FINANCIAL SOUNDNESS						
C.4.1	The average annual financial turnover during the last three financial years (Year 202223, 2023-24, 2024-25) shall be equal to or more than the following:						
	<table border="1"> <thead> <tr> <th>SL NO</th> <th>FINANCIAL PARAMETER</th> <th>QUALIFYING VALUE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Average Annual Turn over</td> <td>Rs 195 Lakh.</td> </tr> </tbody> </table>	SL NO	FINANCIAL PARAMETER	QUALIFYING VALUE	1	Average Annual Turn over	Rs 195 Lakh.
SL NO	FINANCIAL PARAMETER	QUALIFYING VALUE					
1	Average Annual Turn over	Rs 195 Lakh.					
C.4.1.1	Details of Annual Turnover of Bidder for last three consecutive financial year ending on 31st March 2026 (2022-23, 2023-24 and 2024-25)						

C.4.1.2		Financial Year	Annual Turnover (Sales)
	Details of Annual Turnover for last three consecutive years ending on 31st March 2026 (2022-23, 2023-24 and 2024-25)	2022-23	₹.....Lakh
		2023-24	₹.....Lakh
		2024-25	₹.....Lakh
		Average Annual Turnover of three consecutive years	₹.....Lakh
C.4.1.3	Profit and Loss account statement & Balance Sheet for last three consecutive years ending on 31st March 2025 (2022-23, 2023-24 and 2024-25) duly certified by chartered accountant with CA membership number.	Financial year	Please Tick () in the appropriate box
		2022-23	☐ Enclosed / ☐ Not Enclosed
		2023-24	☐ Enclosed / ☐ Not Enclosed
		2024-25	☐ Enclosed / ☐ Not Enclosed
C.4.1.4	Income Tax Return Acknowledgment for last three consecutive years ending on 31st March 2025 (2022-23, 2023-24 and 2024-25) or assessment years (2023-24, 2024-25 and 2025-26)	Assessment year	Please Tick () in the appropriate box
		2023-24	☐ Enclosed / ☐ Not Enclosed
		2024-25	☐ Enclosed / ☐ Not Enclosed
		2025-26	☐ Enclosed / ☐ Not Enclosed
C.4.1.5	Permanent Account Number (PAN)		☐ Enclosed / ☐ Not Enclosed
C.4.1.6	Goods and Services Tax Registration (GST)		☐ Enclosed / ☐ Not Enclosed
C.4.1.7	Documents to be submitted		

	1. Auditor certificate indicating annual turnover for three consecutive Financial Years ending on 31st March 2025 (2022-23, 2023-24 and 2024-25) duly signed by Chartered Accountant registered with Institute of Chartered Accountants of India. The auditors' certificate should bear valid membership number of the Chartered Accountant. 2. Income Tax Return Acknowledgment for last three consecutive years ending on 31st March 2025 (2022-23, 2023-24 and 2024-25) or assessment years (2023-24, 2024-25 and 2025-26) If the company did not exist for 3 financial years, the average turnover will be calculated from the year of existence (not before three years) of the company in the past. 3. Permanent Account Number (PAN): Bidder should have valid Permanent Account Number (PAN) and Self-Attested copy of PAN Card shall be enclosed. 4. GST registration Number: The bidder shall have GST registration, copy of GST certificate shall be enclosed
<i>Duly filled copy of the above along with supporting document to be uploaded in e-procurement portal.</i>	

D: Pre- qualification Criteria: Statutory requirements & acceptance to tender terms & conditions

D.1	ACCEPTANCE TO TENDER TERMS AND CONDITIONS	
	The bidder shall unconditionally accept all terms and conditions of tender.	
D.1.1	Details of documents submitted by Bidder	
	Duly filled, Signed and sealed copy of Tender document.	☐ Enclosed / ☐ Not enclosed
	Duly signed and Sealed copy of "No Deviation Certificate" as per ANNEXURE-A	☐ Enclosed / ☐ Not enclosed
	Duly signed and Sealed copy of "Declaration" as per enclosed ANNEXURE-B	☐ Enclosed / ☐ Not enclosed
	Duly signed and Sealed copy of "Integrity Pact " as per enclosed ANNEXURE-F	☐ Enclosed / ☐ Not enclosed

	Duly signed and Sealed copy of “ GFR Declaration ” as per enclosed ANNEXURE-I	☐ Enclosed / ☐ Not enclosed
	Duly signed and Sealed copy of “ Make in India local content declaration ” as per enclosed ANNEXURE-J	☐ Enclosed / ☐ Not enclosed
D.2	Applicable GST % against the scope of work	_____ % GST (Vendor to confirm)
<i>Duly filled copy of the above along with supporting document to be uploaded in e-procurement portal.</i>		

ANNEXURE-IB**PART-I (TECHNO COMMERCIAL BID) SCOPE OF WORK AND TECHNICAL TERMS & CONDITIONS****A. BILL OF QUANTITY**

SL NO.	DESCRIPTION OF WORKS	UOM	ESTIMATE QTY
SCHEDULE-A: Supply of packing material and Packing of C& I Cubicles with Plywood, plywood support batten and other materials as per PLANT STANDARD ED 0490092 Rev 11)			
A.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Plywood support batten 18 mm ,other packing materials and packing of C&I and Traction CUBICALS as per scope of work	SQ. MTR OF PLYWOOD	50000
A.2	Supply of 12 mm thick Comml Plywood - Marine Grade IS:710 , Plywood support batten 18 mm ,other packing materials and packing of C&I CUBICALS as per scope of work	SQ. MTR OF PLYWOOD	1000
A.3	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Plywood support batten 12 mm ,other packing materials and packing of C&I and Traction CUBICALS (small Size) as per scope of work	SQ. MTR OF PLYWOOD	5000
SCHEDULE-B: Supply of packing material and Packing of heavier size panels with Plywood along with plywood support batten, mechanical latching unit or suitable nut&bolt and other materials as per PLANT STANDARD ED 0490092 Rev 11			
B.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Plywood support batten , other packing materials and packing of HEAVY EQUIPMENTS as per scope of work	SQ. MTR OF PLYWOOD	1500
SCHEDULE-C:Supply of packing material and Packing of [SPARES & MAIN EQUIP] Loose items / spares / Railway VCU / and other items with Plywood along with plywood support batten and other materials as per PLANT STANDARD ED 0490092 Rev 11]			

C.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Base Plywood of 12 mm and support batten of 12 mm ,other packing materials and packing of LOOSE ITEMS as per scope of work	SQ. MTR OF PLYWOOD	6000
C.2	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Base Plywood of 18 mm and support batten of 18mm ,other packing materials and packing of LOOSE ITEMS as per scope of work	SQ. MTR OF PLYWOOD	9000
C.3	Supply of 12 mm thick Comml Plywood - Marine Grade IS:710 , Base Plywood of 18 mm and support batten of 18mm ,other packing materials and packing of LOOSE ITEMS as per scope of work	SQ. MTR OF PLYWOOD	500
SCHEDULE-D:Supply of packing material and Packing of [SPARES & MAIN EQUIPMENT LOOSE ITEMS] items suitable for SPEEDPOST using all sides with 12 mm Thick Commercial Plywood [MR Grade] general purpose with other following pkg materials: Silicagel, Polythene Cover for items, PVC strappings and markings. [No rubber wood supporting battens] as per Drawing Number: .805 - RPP - BOX - 001			
D.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 and other packing materials and packing of LOOSE ITEMS SUITABLE FOR SPEEDPOST as per scope of work	SQ. MTR OF PLYWOOD	2500
SCHEDULE-E:Supply and Packing of panels with Galvanised Iron Sheet of Thickness 0.3 mm + /- 0.05mm tolerance with suitable Nails & Wooden batten for covering packed cases as per PLANT STANDARD ED 049 0099 Rev 14			
E.1	Supply of GALVANIZED IRON SHEET OF THICKNESS 0.3MM +-0.05MM with Suitable Nails & Wooden batten and covering of PACKED CASES as per scope of work.	SQUARE METER OF GI SHEET	4000
SCHEDULE F: LABOUR CHARGE for packing of materials in plywood using all other materials except plywood/pine /Silver Oak. [Plywood supplied by BHEL.] PACKING CHARGE ONLY			

F.1	LABOUR CHARGE for packing of materials in plywood using all other materials except plywood. [Plywood supplied by BHEL.] (PACKING CHARGE ONLY)	PER SQUQRE METER	1000
F.2	LABOUR CHARGE for packing of materials (Railway Module) in Carton Box using all other materials except Carton Box and filling material. [Carton Box with filling material supplied by BHEL.] PACKING CHARGE ONLY	NOS.	2500
G	Supply & packing of HVDC thyristor Modules		
	Supply & packing of HVDC thyristor Modules as per packing standard with Plywood (Base sheet, Pallet Runner & Support Batten) with other packing materials (200micron Plastic cover, Silica gel) as per scope of work <u>Note: XLPE & PE foam will be supplied by BHEL.</u>	NOS.	624
H	Supply and packing in Corrugated carton box as per below sizes :		
a)	150 x 130 x 60 mm	NOS.	1000
b)	180 x 130 x 60 mm	NOS.	1000
c)	200 x 150 x 80 mm	NOS.	1000
I	Supply and packing in COLLAPSIBLE PLYWOOD PACKING BOXES as per IS 303 as per below sizes (outer dimension) (Thickness of plywood pallet - 15 mm and Thickness of plywood top and side cover- 9 mm, Batten/ Runner size - 100 mm (height) X 75 mm (width)		
a)	1300 x 1000 x 1000	NOS.	200
b)	1200 x 800 x 800	NOS.	200
c)	900 x 900 x 900	NOS.	200

For detailed information, please refer to Annexure-IB enclosed at the end of this document.

B. SCOPE OF WORK, CONTRACT PERIOD AND TERMS & CONDITIONS OF CONTRACT**B.1.1: SCOPE OF WORK**

Schedule of quantity for Packing of Control Equipment products, Traction equipment's, semiconductor Devices, etc. mentioned in Bill of Quantity(BOQ).

Major items using Plywood of different Grades, Labour charge, Using GI Sheet for packing, and Consumables for packing to be supplied by Contractor.

Note: 1. Quantity indicated in the schedule (i.e. BOQ) is only as per projected plan for One year, it may vary in each line item based on actual production plan issued by management from time to time. However, the overall value of each vendor will be limited to contract value issued after finalization of tender (i.e work order).

2. L1, L2, L3 L4 etc., shall be decided/finalized based on overall cost of total package (Not on line item and irrespective of items).

SL NO	DESCRIPTION OF WORKS	SCOPE OF WORKS	UOM	ESTIMATE QTY
A.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Plywood support batten 18 mm ,other packing materials and packing of C&I and Traction CUBICALS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	50000
A.2	Supply of 12 mm thick Plywood - Marine Grade IS:710 Plywood support batten 18mm ,other packing materials and packing of C&I CUBICALS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	1000
A.3	Supply of 12 mm thick Plywood - MR Grade IS:303 with Plywood support batten 12mm ,other packing materials and packing of C&I CUBICALS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	5000
B.1	Supply of 12 mm thick Plywood - MR Grade IS:303 , Plywood support batten ,other packing materials and packing of HEAVIER PANELS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	1500
C.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Base Plywood of 12 mm and support batten of 12 mm , other packing materials and packing of LOOSE ITEMS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	6000

C.2	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Base Plywood of 18 mm and support batten of 18mm,other packing materials and packing of LOOSE ITEMS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	9000
C.3	Supply of 12 mm thick Comml Plywood - Marine Grade IS:710 , Base Plywood of 18 mm and support batten of 18 mm ,other packing materials and packing of LOOSE ITEMS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	500
D.1	Supply of 12 mm thick Plywood - MR Grade IS:303 and other packing materials and packing of LOOSE ITEMS SUITABLE FOR SPEEDPOST as per scope of work	SUPPLY OF PACKING MATERIAL EXCEPT SUPPORT BATTENS AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	2500
E.1	Supply of GALVANIZED IRON SHEET OF THICKNESS 0.3MM +-0.05MM with suitable Nails & Wooden batten and covering of PACKED CASES as per scope of work.	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQUARE METER OF GI SHEET	4000
F.1	LABOUR CHARGE for packing of materials in plywood using all other materials except plywood. [Plywood supplied by BHEL.] (PACKING CHARGE ONLY)	SUPPLY OF PACKING MATERIAL EXCEPT PLYWOOD AND PACKING USING THE SUPPLIED MATERIAL	PER SQUQRE METER	1000
F.2	LABOUR CHARGE for packing of materials (Railway Module) in Carton Box using all other materials except Carton Box and filling material. [Carton Box with filling material supplied by BHEL.] PACKING CHARGE ONLY	PACKING USING BHEL SUPPLIED MATERIAL	NOS.	2500
G	Supply of packing material & packing of HVDC thyristor Modules			
G	Supply & packing of HVDC thyristor Modules as per packing standard with Plywood (Base sheet, Pallet Runner & Support Batten) Note: Packing Element (XLPE & PE) foam will be supplied by BHEL.	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	NOS.	624

H	Supply and packing in Corrugated carton box as per below sizes :	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
H.a	ID :150 x 130 x 60 mm		NOS	1000
H.b	ID:180 x 130 x 60 mm		NOS	1000
H.c	ID:200 x 150 x 80 mm		NOS	1000
I	Supply And packing in COLLAPSIBLE PLYWOOD PACKING BOXES	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
I.a	OD:1300 x 1000 x 1000			200
I.b	OD:1200 x 800 x 800			200
I.c	OD:900 x 900 x 900			200

B.1.2: Reference documents for Packing:

- 1) PLANT STANDARD ED 049 00 92 REV NO 11 (Applicable for packing of item with **plywood and wood**)
- 2) DRAWING NO:805 RPP BOX 001 (Applicable for packing of loose item **suitable for Speed post**)
- 3) DRAWING NO:36880410022 (Applicable for packing of loose items of **SPARES & MAIN EQUIPMENT**)
- 4) HVDC Module packing (Doc. No. GI2191SH16600102)
- 5) Corrugated Carton Box (Packing Box shipping_Misc.)
- 6) SAMPLE SIZE ANNEXURE

B.1.3: Manpower Deployment Schedule

The tentative / indicative number of manpower required on daily basis to carry out the job (HSW-2, SW-13, SSW-4, USW-2). However, this number may vary based on work order value. Vendor shall arrange additional manpower to meet packing requirement as and when required to meet the target as per contract Executing Department. The contractor shall deploy manpower daily basis as per below mentioned schedule based on award of work value:

Sl No.	% of work awarded	No. of manpower to be deployed on daily basis	% of work awarded	No. of manpower to be deployed on daily basis	% of work awarded	No. of manpower to be deployed on daily basis	% of work awarded	No. of manpower to be deployed on daily basis
1	50%	10 Nos	65%	12 Nos	65%	12 Nos	100%	22 Nos.

2	25%	6 Nos	25%	6 Nos	35%	10 Nos	NA	NA
3	15%	4 Nos	10%	4 Nos	NA	NA	NA	NA
4	10%	4 Nos	NA	NA	NA	NA	NA	NA

The Packing work entrusted to each contractor will depends on the following criteria, during the execution of the contract:

- (i) The Number of Workmen employed.
- (ii) Stock of Packing Materials supplied and kept at our works, by the Contractor at any point of time.
- (iii) Performance of the Contractor and timely completion of the work.
- (iv) Readiness of the Contractor to take-up the job at short notice and to meet our monthly schedule that will be issued periodically.
- (v) Raising to the occasion, during peak loads, in such occasion vendor has to deploy additional manpower to complete the packing works.
- (vi) The Packing work shall normally be done between 7.30AM and 4.36 PM on working days. However, the same shall be done beyond normal working hours on the directions of executing officers whenever the work load is temporarily increased. No overtime wages or additional payments or allowance for you or your employees deployed for such work will be payable by BHEL for working beyond normal working hours.
- (vii) Movement for materials to be packed, packing material, packing activities, clearing of packing area for receipt of new material for Packing shall be carried out by the contractor's manpower only. The forklift, hand pallet trolley (HPT), and battery-operated pallet truck (BOPT) will be provided by BHEL. The contractor's manpower shall be responsible for the movement of packing materials, packing operations, movement of packed boxes, and all other activities, as instructed by the Shipping Department Supervisor/Executive. Any training required for carrying out these activities will be provided by BHEL.

B.2.1: SAFETY CODE

RESPONSIBILITIES OF THE CONTRACTOR IN RESPECT OF SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT

1. Before commencing the work, contractor submit a "SAFETY PLAN" to the authorized BHEL Official. The 'SAFETY PLAN' shall indicate in detail the measure that would be taken by the contractor to ensure safety of men, equipment, material and environment during execution of the work. The plan shall take care to satisfy all requirements specified hereunder. The contractor shall submit Safety Plan along with his offer. During negotiations before placing of work order and during execution of the contract BHEL shall have right to review and suggest modification in the Safety Plan. Contractor shall abide by BHEL decision in this respect.
2. The contractor shall take all necessary safety precautions and arrange for appropriate appliances as per direction of BHEL or its authorized officials to prevent loss of human lives, injuries to personnel engaged, and damage to property and environment.
3. The contractor shall provide to its work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorized BHEL officials:
 - (i) Safety Helmets conforming to IS-2925: 1984. (ii) Safety Belts conforming to IS-3521: 1983.
 - (iii) Safety Shoes conforming to IS-1989: 1978

- (iv) Eye and Face protection devices conforming to IS – 8520: 1977 and IS-8940: 1978 (v) Hand and body protection devices conforming to:

IS-2573: 1975

IS-6994: 1973

IS-8807: 1978

IS-8519: 1977

All electrical equipment's, connections and wiring for constructions power, its distribution and use shall conform to the requirement of the Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. All electrical appliances including portable electric tools used by the contractor shall have safe plugging system to source of power and be appropriately earthed. The contractor shall not use any hand lamp energized by electric power with supply voltage of more than 24 volts. For work in confined space lighting shall be arranged with power sources of not more than 24 volts.

The Contractor shall adopt all fire safety measures as laid down in the "Code for fire Safety at Construction Sites" issued by the Safety Department of the Construction Management (HQ) of BHEL and as per directions of the authorized BHEL official. A copy of the above referred "Code of Fire Safety at the Construction Sites" shall be made available by BHEL to the contractor for reference, on demand by the contractor, during tendering stage itself.

The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working when natural daylight may not be adequate for clear visibility.

The contractor shall be held responsible for any violation of statutory regulations local, state or central and BHEL instructions, that may endanger safety of men, equipment, material and environment in his scope of work or another contractor's or agencies. Cost of damages if any, to life and property arising

All tools, tackles, lifting appliances, material handling equipment scaffolds, cradles, safety nets, ladders, equipment's etc. used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item.

out of such violation of statutory regulations and BHEL instructions shall be borne by the contractor.

In case of a fatal or disabling injury accident to any person at construction sites due to the lapses by the contractor, the victim and/or his/her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and/or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.

In case of any damage to property by the contractor, BHEL shall have the right to recover cost of such damages from payments from payments due to the contractor after holding an appropriate enquiry.

In case of any delay in the completion of a work due to mishaps attributable to lapses buy the contractor, BHEL shall have to recover cost of such delay from payments due to the contractor, after notifying suitably and giving him opportunity to present his case.

If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given a reasonable opportunity to do so; and/or if the contractor fails to take appropriate safety precautions or to

provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorized BHEL official, BHEL shall have the right to take corrective steps.

The contractor shall submit report of all accidents, fires and property damage, dangerous occurrence to the authorized BHEL official immediately after such occurrence, but in any case not later than twelve hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition, the contractor to the authorized BHEL official shall also submit periodic reports on safety from time to time as prescribed.

Before commencing the work, the contractor shall appoint/nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.

If safety record of the contractor in execution of the awarded work is to the satisfaction of Safety Department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion the work.

B.2.2: HEALTH, SAFETY & ENVIRONMENTAL POLICY

The Management is committed to be an environmentally sound company in its activities, products, services and to provide safe and healthy working environment covering its employees, products & services as an integral part of business performance through:

- Compliance with applicable Legislation and Regulation
- Setting objectives and targets to eliminate/control/minimize environmental pollution, risks due to Occupational Health and Safety Hazards.
- Promotion of activities for conservation of resources by environmental management with focus on oil, electrical energy and chemicals.
- Enhancement of Environmental, Safety and Occupational Health awareness amongst employees, customers, suppliers, contractors by proactive communication.
- Regular evaluation and pro-active measures for prevention & control of environmental pollution/accidents/occupational diseases.
- Appropriate training of employees and interested parties on Health, Safety & Environmental (HSE) aspects.
- Formulation and maintenance of HSE Management Programs for continual improvement.
- Periodic review & audit of HSE Management System to ensure its continuing suitability, adequacy and effectiveness
- Communication of HSE Policy to all employees and interested parties.
- Co-operation with concerned agencies/regulatory bodies engaged in HSE activities.

B.2.3: CONTRACTOR'S OBLIGATIONS

The contractor shall decide the required nos. of workmen for execution of the work awarded to him and he or his authorized representative will be solely entitled to instruct such workers about the manner in which the awarded work is to be carried out as per the prescribed specifications and as directed by Engineer-in-charge. The contractor shall be fully responsible for the work awarded to him and fulfil following obligations.

The contractor shall depute his workmen to carry out the work given in scope of work. The work shall be executed as per work instructions and to the satisfaction of Engineer-in-charge.

The contractor shall ensure that the employees deployed in the premises of BHEL are physically and mentally fit and do not have any criminal records. Such employees should possess requisite skill, proficiency, experience etc. to carry out the work.

Contractor shall maintain appropriate records of his employees deployed to carry out the work.

"The contractor shall issue Employment Card in Form No.XIV to each Worker engaged by him within 3 days of the employment of the Worker as prescribed under Rule No.76 of the Contract Labour (Regulation & Abolition) Central Rules, 1971. The Card shall be maintained up-to-date and any change in the particulars shall be entered therein".

"The contractor shall issue Letter of Appointment to each Worker engaged by him for execution of the Work awarded, before commencement of the Work. Copies of the Letters of Appointment issued shall be submitted to the Authorized Representative of BHEL from time to time for reference".

The contractor shall provide employment card/identity card with photograph duly verified and attested by the contractor to his employees deployed to execute the work. Contractor shall also indicate the name of the proprietary/partnership firm/company, place of work, contact number and duration of validity of the card etc. in such identity card.

The contractor will be fully responsible for the good conduct of his employees deployed to execute the work. In case of any misconduct/misbehavior by any employee, the contractor will replace such employee(s) immediately.

The contractor will ensure that the work is executed through his employees on his rolls only and under no circumstances the contractor will deploy any casual employees to carry out the work; nor shall sub-contract the work.

The contractor will keep watch on his employees and he will be liable for any pilferage /loss to BHEL due to Acts of omission and commission by his employees. Similarly, for any compensation to outsiders and his employees on account of any act of omission and commission by the employees deployed by the contractor shall lie exclusively with contractor.

The contractor shall be responsible for enforcing all safety regulations as applicable inside the factory, while undertaking the work tendered. Notwithstanding that BHEL may provide consumables, cleaning and material handling equipment etc. wherever required, the contractor shall be responsible for issue and wearing of the safety equipment's/gadgets.

The contractor has to provide his workmen uniform distinct different from BHEL employees, mandatorily after commencement of contract. The uniform should have logo of the contractor's firm/company. The uniform shall be always ensured to be in neat, tidy and wearable condition.

The Contractor has to issue 1 set of Uniform (Terri cot) per year of approved quality and color including stitching charges [Each set: (2 Pants + 2 Shirts)], issue of 01 pair of safety shoes of Liberty Warrior or equivalent make with 2 sets of socks for his employees (Each Set: 01 pair of Shoes+2 pair of Socks) for each Skilled Contract Employee and Washing allowance @ 125/- per person per month.

In the event of termination of contract for any reason whatsoever, the contractor shall withdraw all his employees and his equipment, if any from the establishment of BHEL.

The Contractor should follow and comply with Minimum Wages, ESI, PF, Bonus, Group Insurance and other statutory regulations as stipulated in Factories Act and other applicable State / Central Governments' rules & regulations. In addition to that the contractor shall pay BHEL Additional wage (₹123.08 per man day for USW, ₹142.31 per man day for SSW, ₹157.69 per man day for SW and ₹173.08 per man day for HSW), make payment for holidays (12 days per year), EL encashment (15 days per year), washing allowance @125/- per month.

The contractor shall take necessary insurance policy for his workmen to cover workmen's compensation and accidental cover as may be applicable. Provided if the contractor has or proposes to obtain ESI registration prior to the commencement of the contract, this insurance policy will not be insisted upon.

BHEL will provide materials for repairs and maintenance wherever applicable and agreeable. However, it will be the responsibility of the contractor to inform concerned Engineer-in-charge to ensure the materials/equipment for assigned jobs.

The age of the contract workers deployed at BHEL EDN should be between 18 to 60 years.

The contractor shall maintain regular contact with the designated Engineer-in-charge of BHEL and will interact on matters relating to the work awarded under this contract.

In case the contractor does not carry out the contractual / statutory obligations or the services rendered by him are found to be unsatisfactory, BHEL shall bring the same to his notice and he will be obliged to discharge the obligations and rectify the deficiency / anomaly within a month's time and in continuation of such deficiencies/ failure to compliances limited to a maximum of 03 such notices from BHEL, failing which BHEL reserves the right to terminate the contract without assigning any reason what so ever. In such an event, no damages will be payable for short closure of the contract and the contractor shall be liable to pay BHEL for any loss or hardships it may suffer, such termination shall be for the contractor's default and any money including deposits or bills available with BHEL will be forfeited and any further claim on the contractor may be made by BHEL for recovery of any loss.

The decision of BHEL regarding interpretation of any terms and conditions set forth in this agreement shall be final and binding on the contractor.

Notwithstanding anything contained in this tender document, the contract may be terminated by BHEL without assigning any reason thereof by giving a notice of 30 days to the contractor.

Any periodic change in minimum wages and Statutory compliance as notified by appropriate Govt. during the contract period shall be borne by the contractor. However pursuant to any unforeseen changes in wage structure including changes in basic wages and other components as directed by Govt. directives or BHEL, the contract terms & conditions for wage structure & its impact on the Job/Works contract will be reviewed and suitably compensated by BHEL.

The contractor shall comply with all applicable provisions of the New Labour Codes upon their implementation as directed by BHEL. BHEL will assess the monetary impact on account of implementation of New Labour Codes and reimburse / adjust the difference to the contractor in case of any change in applicable wages, contributions and addition or deletion of any statutory payments.

C.CONTRACT PERIOD AND PLACE OF WORK:

C.1: Mobilization period:

The work shall start within seven days of issue of LOA or as indicated in LOA whichever is earlier.

C.2: Contract Period:

The contract shall remain valid for Twelve months from the date of award of contract.

BHEL-EDN may extend the contract by 3 months at same Rate and Terms and Conditions based on mutual consent.

The packing work shall normally be carried out between 7:30 AM and 4:36 PM on BHEL working days. However, the contractor shall deploy manpower beyond normal working hours, as directed by the Engineer-in-Charge, to meet temporary workload requirements. No overtime wages or additional payment shall be payable by BHEL for such extended working hours.

Time Schedule for completion of Packing works:

SL NO	DESCRIPTION OF PACKING MATERIAL	COMPLETION PERIOD
1	Supply of packing Material and Packing of consignment using Plywood of surface area up to 30 Square meter as per scope of work SCHEDULE : C , D	Within 4 days of intimation through email / over phone.
2	Supply of packing Material and Packing of consignment using Plywood of surface area more than 30 Square meter as per scope of work. SCHEDULE: C,D,	Within 7 days of intimation through email / over phone.
3	Supply of packing Material and Packing of Cubicles / Traction equipment / Heavy Panels using Plywood / wood as per scope of work. SCHEDULE: A,B,G	Within 10 days of intimation through email / over phone.
4	Packing of Packed cases with GI sheet as per scope of work. SCHEDULE:I	Within 7 days of intimation through email / over phone.
5.	Packing services Schedule : F	Within 2 days of intimation through email / over phone.

Delay in packing beyond the above mentioned schedule will lead to penalty as per clause –F.2 of Techno commercial bid (Annexure-IB). C.3: Place of Work:

The work shall be carried out at BHEL-EDN, Bangalore and BHEL-ESD, Bangalore Factory premises.

D.PAYMENT TERMS

1. Payment will be made after completion of work on pro-rata basis based on actual Services provided as per BOQ after acceptance and certification of Area in charge (BHEL Executive). Payment shall be made within 45 days for MSE bidder / 60 days for Medium Enterprises and 90 days for Non MSME bidder from the date of submission of bill complete in all respect.
2. The Contractor shall submit the bill within a week after the end of each month / after completion of work in triplicate copies detailing the various items of work done during the month supported by the requisitions issued from time to time along with any other relevant document which is required from time to time as per BHEL requirement.

3. The Contractor shall, once in every month, submit to the respective area HOD separately details of their claims for the work done by them up to and including the previous. He should in addition furnish a clear certificate to the effect that the claims submitted by him as aforesaid cover all his claims and that no further claims shall be raised by him in respect of the work done up to and including the period under report. Payment will be at the sole discretion of BHEL.
4. The proof of execution of work should be submitted along with each bill (printed form with covering letter and proof for execution of work.
5. If the Contractor is not registered for any statutory obligation and not liable thereto, then a declaration shall be submitted along with offer that they are within the threshold limit.
6. No advance will be paid for operational or any other expenses.
7. Goods and Services tax will be payable extra by BHEL at prevailing rates and corresponding TDS will be made as per Government norms.
8. All payments to be made to the Contractor shall be done only through NEFT (National Electronic Fund Transfer / RTGS (Real Time Gross Settlement). No other forms or mode of payment is made by BHEL If there is any delay in making payment, no interest will be paid.

D.1: BILL SUBMISSION: The Contractor shall submit bills after completion of packing and the payment will be made after receipt of the bill and supporting documents in satisfactory condition.

-Methodology for Bills raising:

Delivery Challan: At the time of supply of packing materials by contractor the Delivery challan(DC) will be duly verified by Security personnel and material verification by QC department. No payment will be made on these supplies till completion of packing. Original DC will be retained at shipping.

This delivery challan/bill shall contain the following (it has to be all inclusive):

- Date and number of the delivery challan.
- Name, address and GSTIN of the consigner,
- Name, address and GSTIN or Unique Identity Number of the consignee
- HSN code for the goods.
- Description of goods (Details of Packing shooks sizes with quantity, area or volume as applicable and value as per contract shall be indicated)
- Quantity of goods supplied
- Taxable value of supply.
- GST tax rate and tax amount broken down as CGST, SGST, IGST – where the transportation is for supply to the consignee.
- Place of supply (in case of inter-state movement of goods.) □ Signature

Packing Bill: After completion of the packing work, the vendor shall submit bill for packing material and packing service charges as per rate contract item wise and relevant GST.

The invoice shall be in accordance with the Work Order (WO) duly supported with documents as called in the WO and shall contain BHEL WO No and WO Schedule, WO Item no. and Description, Quantity, Rate.

E. PRICE VARIATION CLAUSE:

The rates shall remain firm during entire contract period.

F. LIQUIDATED DAMAGES (LD)/PENALTY:**1. LIQUIDATED DAMAGES (LD):**

If the Contractor fails to commence the work within the initial mobilisation period of seven (7) days specified in the Work Order or repudiates the Contract at any stage, BHEL, without prejudice to any other rights or remedies available under the Contract or applicable law, shall be entitled, at its sole discretion, to:

- a. Recover from the contractor, liquidated damages and not by way of penalty, a sum of 0.5% (Half percentage) of total value of the contract (excluding taxes) per day of delay in mobilization beyond initial mobilization period of 7 days, subject to a maximum of 15 days. In such a case, BHEL may also terminate the contract and forfeit security deposit if delay extends beyond 15 days.
- b. Recover from the contractor, liquidated damages and not by way of penalty an amount of ₹1000/- per day in the event of any delay in making the payment of any wages or dues to the all contractual workers by the tenderer i.e. after 07th of subsequent month.

2. PENALTY:

Penalty @ 1% of (amount payable towards packing and supply of material associated with packing) per day of delay beyond the time schedule specified in scope of work

3. MAXIMUM VALUE OF LD/ PENALTY:

- a) The total recoveries under aforesaid clauses shall be limited to maximum 10% of the contract value.
- b) In case of any change of order value, LD / PENALTY shall be subject to a maximum of 10% of the revised order value.
- c) The decision of BHEL on the question whether the contractor(s) have committed such default or have failed to perform any such service efficiently and are liable to pay compensation and as to quantum of such compensation shall be final and binding on the contractor(s).

G. TERMS & CONDITIONS FOR EXECUTION OF THE CONTRACT:

1. The contractor should bring their manpower to BHEL premises at his/her own cost, risk and execute the work allotted to him inside BHEL premises.
2. The contractor should follow and comply with Minimum wages, ESI, PF, Bonus, Group Insurance and other statutory regulations as stipulated in Factories Act and other applicable State/Central Governments' rules and regulations.
3. Attendance register should be maintained by the contractor and should be duly signed by contractor's manpower.
4. All safety equipment's are to be arranged for the workmen and safety rules & regulations are to be followed as per BHEL's Safety Rules and Regulations.
5. The contractor or his/her crew should handle the machinery and other equipment's entrusted to them by BHEL with utmost care and return them safely after execution of stipulated work. The cost of damage, repair due to improper handling of machinery and equipment will be recovered from the contractor.
6. Contractor shall supervise the work carried out by his/her employees.
7. Contractor shall ensure that the employees deployed in the premises of BHEL are physically and mentally fit and do not have any criminal record. Such employees should possess requisite skill, proficiency, qualification, experience etc.
8. Contractor shall maintain appropriate records of his/her employees deployed along with their attendance to carry out the job(s).
9. Contractor will be responsible for the good conduct of his/her employees. In case of any misconduct/misbehaviour by any employee, the contractor will replace such employee(s) immediately.

10. Contractor will ensure that the job is executed through his/her employees on and under no circumstances, the contractor will not deploy any casual employee to carry out the job nor shall subcontract the job without prior written permission.
11. Contractor shall be solely responsible for non-payment, delayed payment of minimum contributions under EPF & MP Act, ESI Act, Bonus, etc.
12. In case, the contractor fails to make payment of wages to his/her employees or remittance of contribution to the concerned authorities, the security deposit, other dues/running bills under the contract can be utilized by BHEL to discharge the liability of the contractor.
13. Contractor shall observe provisions of the Factories Act, 1948 in respect of working hours, holidays, rest intervals, leave and overtime to his/her employee. No work shall be done on second/third shift, overtime, Sundays or on other declared holidays without written permission.
14. The contractor should maintain a 'Work Diary containing the details of work executed by him from time to time on Shift/Daily basis and obtain the signature from official concerned nominated for this/her purpose for having executed the work correctly and satisfactorily.
15. Necessary gate entry pass will be issued by BHEL Security department for Contract Workmen based on your application duly forwarded by the Contract Executing Department and approved by HR/Welfare/Contract Cell on fulfilment of the Statutory Obligation by the Contractor.
16. In the event of termination of contract for any reason whatsoever, the contractor shall withdraw all his/her employees from the establishment of BHEL. In case, contractor decides to terminate services of his/her employees, he should settle all terminal dues including retrenchment compensation.
17. BHEL reserves the right to cancel/short close and terminate the contract at any point of time after giving intimation to the vendor.
18. BHEL will have nothing to do or be concerned with the employment of employees working for the contractor. The relationship between BHEL and the contractor will be that of independent entities and nothing herein contained will amount to joint venture, partnership or on employer-employee relationship. Supervision of work shall be done by the contractor / his authorized Supervisor exclusive for this work only.
19. National & festival holidays (i.e. 12 days per year) is paid holidays & Earned leave of 15 days per year for all employees engaged for this contract shall be paid as per Minimum wage.

PART-I (TECHNO COMMERCIAL BID)

ANNEXURE-IC

GENERAL TERMS & CONDITIONS OF CONTRACT

1. DEFINITION

In these General Conditions of Contract, the following terms shall have meaning hereby assigned to them, except where the context otherwise requires:

- a) The "Contract" means, the documents forming the tender and acceptance thereof, together with all the documents referred to therein including general and special conditions to contract. All these documents as applicable taken together shall be deemed to form one contract and shall be complementary to one another.
- b) The "Work" means, the work described in the tender documents in individual work orders as may be issued from time to time to the contractor by the Officer-In charge within the power conferred upon him including all notified or additional items of works and obligations to be carried out as required for the performance of contract.
- c) The "contractor" means, the individual Firm or Company whether incorporated or not, undertaking the work and shall include the legal personal representatives of such individuals or the persons composing the firm or Company or the successors of the firm or company and the permitted assigns of such individual or firm or Company.
- d) "The Officer-In charge" means, the Officer deputed by the BHEL to supervise the work or part of the work.
- e) "Approved" and "Directed" means, the approval or direction of the respective area **HOD** or person deputed by him for the particular purposes.
- f) "BHARAT HEAVY ELECTRICALS LIMITED" (hereinafter referred to as BHEL) shall mean the Board of Directors, Chairman, Executive Director, General Manager or, other Administrative Officer of the said Company including **AGM / CCD** authorised to invite tenders and enter into contract for works on behalf of the Company.
- g) The "Contract sum" means, the sum accepted or the sum calculated in accordance with the prices accepted in tender and / or the contract rates as payable to the contractor for the execution of the work during the currency of the contract.
- h) A "week" means, Seven Days, without regard to the number of hours worked or not worked in any day in that week.
- i) A "day" means, the day of 24 hours (TWENTY-FOUR) irrespective of the number of hours worked or not worked in that day.

2. HEADING TO THE CONTRACT

The heading to these conditions shall not affect the interpretations thereof.

3. DEVIATIONS

The contractor shall not carry out any work not covered by schedule except in pursuance of the written instructions of the respective area HOD. No such work shall be valid unless the same has been specifically confirmed and accepted by BHEL in writing and incorporated in the Contract.

4. WORKS TO BE CARRIED OUT

The Contract shall include all labour materials, tools, plant, equipment and transport which may be required for the execution of the work.

The Contractor will be deemed to have satisfied himself as to the nature of the site, local facilities of access and all matters affecting the execution of the work. No. extra charges consequent on any misunderstanding in these respects or otherwise will be allowed.

5. ASSIGNMENT OF TRANSFER OF CONTRACT

The Contractor shall not, assign or transfer the contract or any part thereof, or any share, or interest thereon to any other persons.

6. SUB CONTRACT

The Contractor shall not sublet any portion of the contract.

7. COMPLIANCE TO REGULATIONS AND BYE -LAWS

The Contractor shall confirm to the provisions of any statute relating to the work and regulations and Bye- laws of any local authority. The Contractor shall be bound to give all notices required by statutory regulations or bylaws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.

8. EARNEST MONEY DEPOSIT (EMD) & SECURITY DEPOSIT (SD):**Earnest Money Deposit (EMD):**

Tender must be accompanied by Earnest Money for the amount mentioned in tender notice, pledged to BHEL- EDN, BANGALORE in any of the forms mentioned below.

Modes of Deposit:

The EMD shall be accepted only in the following forms:

- a) Cash deposit as permissible under the extant Income Tax Act (before tender opening)
- b) Electronic Fund Transfer credited in BHEL account (before tender opening)
- c) Banker's cheque/ Pay order/ Demand draft, in favour of BHEL (along with offer)
- d) FDR issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL) e) Insurance Surety Bond.
- e) In addition to the above, the EMD amount in excess of ₹2, 00, 000 /- (₹two lakhs) also acceptable in the form of Bank guarantee from scheduled banks. The bank guarantee in such cases shall be valid for at least six months. (BG Format is attached as ANNEXURE-E)

Forfeiture of EMD:

EMD by the tenderer will be forfeited as per tender documents if

- i) After opening the Tender, the Tenderer revokes his tender within the validity period or increases his earlier quoted rates. ii) If only, a part of the work included in the tender has been awarded to the tenderer and the tenderer refuses to take up the work the amount of Earnest Money to be forfeited will be based on the value of the contract so awarded.
- iii) The tenderer fails to commence the work within the period specified in the LOI/Contract, or, where no such period is specified, within 7 days from the date of award of the Contract.

General Terms related to EMD:

Earnest Money Deposit (EMD) will not carry any interest.

Earnest Money Deposit (EMD) of the successful tenderer will be retained as part of Security deposit.

The Earnest Money Deposit (EMD) will be refunded to the unsuccessful tenderers within 15 days of acceptance of the award of work by successful tenderer / expiry of offer validity period.

Non-Start of work within seven days of issue of LOA / WO or date indicated in LOA whichever is later will lead to forfeiture of EMD and may also attract the provision of "Suspension of Business dealings with Suppliers/Contractors".

Security Deposit (SD):

The contractor whose tender has been accepted shall, within seven days of receipt of the notification of acceptance of his tender **or before start of work (whichever is earlier)**, deposit Security deposit @ 5 % of Contract value.

EMD of the successful tenderer shall be converted and adjusted towards the required amount of **Security deposit (SD)**:

Modes of Deposit:

The balance amount to make up the required Security Deposit of 5% of the contract value may be accepted in the following forms:

- i) Cash (as permissible under the extant Income Tax Act) ii) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL
- iii) Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL
- iv) Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL)
- v) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL)

General Terms related to SD:

The security Deposit will not carry any interest.

Security Deposit shall be released to the contractor upon fulfilment of Contractual obligations as per terms of contract.

BHEL, shall not be responsible for any loss of securities due to liquidation or any other reason whatsoever or any depreciation in the value of the Securities while in their charge or for any loss of interest thereon.

NOTE: Acceptance of Security Deposit against Sl. No. (iii), (iv) and (v) above will be subject to hypothecation or endorsement on the documents (Signature of the Branch Manager must be present) in favor of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

All compensation or other sums of money payable by the contractor to BHEL under the terms of this contract or under any other contract with BHEL, may be deducted from the Security Deposit or realized by the sale of the securities, from the interest arising there from or from any sums which may be due or may become due to the contractor payable by BHEL, on any account whatsoever against this contract or any other contract with BHEL and in the event of his Security Deposit being reduced by reason of such deductions or sale as aforesaid, the Contractor shall within seven days thereafter make good in cash or in securities endorsed as aforesaid, any sum or sums by which the security Deposit has been so reduced.

In case of an Award of a Contract and if the Contractor fails to perform or does not comply with the Performance Evaluation Criteria, the Security Deposit will not be refunded / Bank Guarantee encashed.

The claim period for Bank Guarantee shall be kept three months after the contract end date.

Security Deposit has to be deposited within seven days of issue of LOA / WO or date indicated in LOA, whichever is later.

“Bidder agrees to submit performance security required for execution of the contract within the time period mentioned. In case of delay in submission of performance security, enhanced performance security which would include interest (Repo rate +4%) for the delayed period, shall be submitted by the bidder. Further, if performance security is not submitted till such time the first bill becomes due, the amount of performance security due shall be recovered from the bills along with the interest”

9. GOODS & SERVICE TAX (GST) REGISTRATION & COMPLIANCE

1. Response to Tenders for Indigenous supplier will be entertained only if the vendor has a valid GST registration No (GSTIN) which should be clearly mentioned in the offer. If the dealer is exempted from GST registration, a declaration with due supporting documents need to be furnished for considering the offer. Dealers under composition scheme should declare that he is a composition dealer supported by the screen shot taken from GST portal. The dealer has to submit necessary documents if there is any change in status under GST.
2. Supplier shall mention their GSTIN in all their invoices (incl. credit Notes, Debit Notes) and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No. which is linked/uploaded in GSTN network shall be clearly indicated), Billed to party (with GSTIN) & Shipped to party details, item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, Place of Supply etc.
3. All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).
4. Invoices will be processed only upon completion of statutory requirement and further subject to following:
 - a) Vendor declaring such invoice in Form GST ANX-1
 - b) Receipt of Goods or Services and Tax invoice by BHEL
5. As the continuous uploading of tax invoices in GSTN portal (in GST ANX-1) is available for all (i.e. both Small & Large) tax payers under proposed new GST Return System, all invoices raised on BHEL may be uploaded immediately in GST portal on dispatch of material /rendering of services. The supplier shall ensure availability of Invoice in GST portal before submission of invoice to BHEL. Invoices will be admitted by BHEL only if the invoices are available in GSTN portal (in BHEL's GST ANX-2).
6. In case of discrepancy in the data uploaded by the supplier in the GSTN portal or in case of any shortages or rejection in the supply, then BHEL will not be able to avail the tax credit and will notify the supplier of the same. Supplier has to rectify the data discrepancy in the GSTN portal or issue credit note or debit note (details also to be uploaded in GSTN portal) for the shortages or rejections in the supplies or additional claims, within the calendar month informed by BHEL.
7. In cases where invoice details have been uploaded by the vendor but failed to remit the GST amount to GST Department (Form PMT-08 or Form GST RET-01 to be submitted) within stipulated time, then GST paid on the invoices pertaining to the month for which GST return not filed by the vendor will be recovered from the vendor along with the applicable interest (currently 24% p.a) and all subsequent bills of the vendor will not be processed till filing of the GST return by the vendor
8. In case GST credit is denied to BHEL due to non-receipt or delayed receipt of goods and/ or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount claimed in the invoice shall be disallowed to the vendor.
9. Where any GST liability arising on BHEL under Reverse Charge (RCM), the vendor has to submit the invoices to BHEL well within the timeline prescribed in GST Law, to enable BHEL to discharge the GST liability. If there is a delay in submission of invoice by the vendor resulting in delayed payment of GST by BHEL along with Interest, then such Interest payable or paid shall be recovered from the vendor.
10. Under GST regime, BHEL has to discharge GST liability on LD recovered from suppliers/contracts. Hence applicable GST shall also be recoverable from suppliers/contractors on LD amount. For this Tax Invoice will be issued by BHEL indicating the respective supply invoice number.
11. GST TDS will be deducted as per Section 51 of CGST Act 2017 and in line with Notification 50/2018 – Central Tax dated 13.09.2018. GST TDS certificate which will be generated in GST portal subsequent to vendor accepting the TDS deduction in the GST portal, will be issued to the vendor.

10. ORDERS UNDER THE CONTRACT

All orders, notices etc. to be given under the contract shall be in writing, typescript or printed and if sent by registered post to the address given in the tender of the Contract, shall be deemed to have been served on the date, when in the ordinary course they would have been delivered to him. The Contractor shall carry out without delay all orders given to him.

11. CONTRACTOR'S SUPERVISION

1. The Contractor shall either himself supervise the execution of the contract or shall appoint a competent agent acceptable to BHEL Officials.
2. Orders given to the Contractor's agent shall be considered to have the same force as if they have been given to the Contractor himself.
3. The Contractor or his accredited agent shall attend when required without making any claim for doing so to the OFFICER-INCHARGE, to receive instructions.
4. The respective area HOD shall have full powers and without assigning any reason, requires the Contractor to immediately cease to employ in connection with this contract, any agent, servant or employee where continued employment is, in his opinion undesirable. The Contractor shall not be allowed any compensation on this account.

12. PAYMENT TO EMPLOYEES ENGAGED BY CONTRACTOR

1. The Contractor shall remain liable for the payment of all wages and other payments in connection with the employees engaged by him and with regard to the work.
2. The Contractor shall comply with the applicable provisions of Payment of Wages Act-1936, Minimum Wages Act-1948, Employees' Liability Act-1938, Employees' Compensation Act-1923, Payment of Bonus, EPF and Miscellaneous Provisions Act-1952, Employees' State Insurance Act-1948 and other relevant Acts and rules framed, thereunder from time to time.
3. Contractor shall be responsible for making payment of wages within 7 days / 10 days (As applicable) from the last day of wage period and shall obtain the signature at the end of entries in the wage register from area in-charge of contract operating department.
4. Contractor should ensure that at least the prevailing minimum wages, as per the rules of **State/Central Minimum wage**, which are applicable are paid to his employees only in their respective nationalized bank accounts by means of NEFT/ RTGS/ IMPS.
5. The contractor should remit the salary/wages of their workmen only through nationalized Bank, directly to the salary/savings account of the employee concerned. Monthly clearance will be given in respect of those contractors, only if the salary/wages to the workmen concerned has been remitted in the nationalized bank account of the workmen. The relevant Bank statement/proof for Bank payment should be produced along with PF and ESI challans every month.
6. No other mode of payment (hand payment / account transfer other than salary or any other) is acceptable as salary.
7. The contractor should pay the previous month salary in full to their employees before 7th of every month and will not adjust with any advance/ loan /training cost / accommodation cost / repayment due by the employee.
8. If the Contractor employs more than twenty employees, he has to obtain License to this effect from the Factory Inspectorate and renew the same periodically.

9. The Contractor should follow and comply with Minimum Wages, ESI, PF, Bonus, Group Insurance and other statutory regulations as stipulated in Factories Act and other applicable State / Central Governments' rules & regulations.
10. Each contract employees must have his own PF and ESI Codes and comply with the relevant Acts.
11. "The contractor shall issue Employment Card in Form No.XIV to each Worker engaged by him within 3 days of the employment of the Worker as prescribed under Rule No.76 of the Contract Labour (Regulation & Abolition) Central Rules, 1971. The Card shall be maintained up-to-date and any change in the particulars shall be entered therein".
12. "Payment of Gratuity under The Payment of Gratuity Act, 1972 and Retrenchment Compensation under The Industrial Disputes Act, 1947, wherever applicable, shall be the sole responsibility of the Contractor".

13. PRECAUTIONS AGAINST RISK

The Contractor shall be responsible for providing at his own expense for all precautions to prevent loss or damage from any and all risks and to minimize the amount of any such loss or damage and for the necessary steps to be taken for the said purpose.

14. DAMAGE / LOSS TO PROPERTY & INJURY TO WORKMEN

The Contractor shall at his own expense reinstate and make good to the satisfaction of the respective area **HOD** and pay compensation for any injury, loss or damage occurred to any property or rights whatever including property and rights of BHEL (or agents) servants or employee of BHEL, the injury loss or damage arising out of or in any way in connection with the execution or purported execution of the contract and further the contractor shall indemnify BHEL against all claims enforceable against BHEL (or any agent, servant or employee of BHEL) or which would be so enforceable against BHEL, in respect of any such injury (including injury resulting in death) loss or damage to any person whomsoever or property including all claims which may arise under the Employees Compensation Act or otherwise.

15. LAWS GOVERNING THE CONTRACT

The contract shall be governed by the Indian Laws for the time being in force.

16. CANCELLATION OF CONTRACT FOR CORRUPT ACTS

BHEL, whose decision shall be final and conclusive, shall without prejudice to any other right or remedy which shall have accrued, shall accrue thereafter to BHEL cancel the contract in any of the following cases and the Contractor shall be liable to make payment to BHEL for any loss or damage resulting from any such cancellation to the same extent as provided in the case of cancellation for default.

If the Contractor shall:

- a) Offer or give or agree to give to any person in BHEL service any gift or consideration of any kind, as an inducement or reward for doing or for bearing to do or for having done or for having borne to do any act, in relation to the obtaining or execution of this or any other contract for BHEL service,
OR
- b) enter into a contract or understanding with any person in BHEL in connection with which commission has been paid or agreed to be paid by him or with his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to BHEL,
OR
- c) To obtain' a contract with BHEL as a result of ring tendering or by non-bonafide methods of competitive tendering, without first disclosing the fact in writing to BHEL.

17. CANCELLATION OF CONTRACT FOR INSOLVENCY ASSIGNMENT OR SUBLETTING OF CONTRACT

BHEL, without prejudice to any other right or remedy, which shall have accrued or shall accrue thereafter to BHEL, shall cancel the contract in any of the following cases:

If the Contractor,

- a) Being an individual or if a firm any partner thereof shall at any time be adjudged bankrupt or have a receiving order for administration of his estate, made against him or shall take any proceedings for liquidation or composition under any bankruptcy Act or assignment of his effects of composition or arrangement for the benefit of his creditors or purport to do so, or if any application made under any Bankruptcy Act for the time being in force for the sequestration of his estate or if a trust deed be granted by him on behalf of his creditors.

OR

- b) Being a Company, shall pass a resolution or Court shall make an order for the liquidation of its assets, or a receiver or Manager on behalf of the debenture holders shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or Manager.

OR

- c) Assigns, Transfers, Sublets or attempts to assign, transfer or sublet any portion of the work.
- d) Whenever BHEL exercises the authority to cancel the contract under these conditions, BHEL may have the work done by any means at the Contractor's risks and expenses provided always that in the event of the cost of the work so done (as certified by the respective area **HOD**) being less than the contract cost, the advantage shall accrue to BHEL and if the cost exceeds the money due to Contractor under the contract, the Contractor shall either pay the excess amount ordered by the respective area **HOD** or the same shall be recovered from the Contractor by other means.
- e) In case BHEL carries out the work under the provisions of this condition, the cost to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of the cost of the materials, hire charges of tools and plants and / or labour provided by BHEL with an addition of such percentage to cover superintendence and establishment charges as may be decided by the respective area **HOD** whose decision shall be final and conclusive.
- f) Labour engaged by the contractor should be disciplined & exhibit good behaviour in dealing with employees of BHEL. Any misbehaviour or undesirable conduct of any person engaged by the contractor is reported, contractor shall change that person immediately or else it may even lead to termination of the contract & in such case security deposit will be forfeited as penalty.

18. CANCELLATION OF CONTRACT IN PART OR FULL ON CONTRACTOR'S DEFAULT

If the contractor:

- a) makes default in carrying out the work as directed and continues in that state after a reasonable notice from the respective area **HOD** or his authorized representative:
- b) fails to comply with any of the terms & conditions of the contract or failure to comply orders after reasonable notice in writing with orders properly issued thereunder:

BHEL may without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to BHEL CANCEL the contract as whole or in part thereof or only such work order or items of work in default from the contract. Whenever BHEL exercises the authority to cancel the contract as a whole or part under this condition, BHEL may complete the work at the contractor's risk and cost (as certified by the respective area **HOD** which is final and conclusive) being less than the contract cost, the advantage shall accrue to BHEL. If the cost exceeds the money due to the Contractor under this contract, the Contractor shall either pay the excess amount ordered by the respective area **HOD** or the same shall be recovered from the Contractor by other means. In case BHEL carries out the work or any part thereof under the provisions of the conditions the cost to be taken into account in determining the excess cost to be charged to the Contractor under this condition shall consist of

the cost of the materials, hire charges of tools and plant and/or labour provided by BHEL with an addition of such percentage to cover the superintendence and establishment charges as may be decided by the respective area **HOD** whose decision shall be final and conclusive.

19. TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR

Without prejudice to any of the rights or remedies under this contract, if the Contractor dies, or if the firm is dissolved or the company is liquidated, BHEL shall have the option of terminating the contract without compensation to the Contractor.

20. SPECIAL POWER TO TERMINATION

If at any time after the award of contract, BHEL shall for any reason whatsoever not require whole or any part of the work to be carried out the respective area **HOD** shall give notice in writing of the fact to the Contractor who shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the foreclosing of the work.

21. RECOVERY FROM CONTRACTOR

Whenever under the contract, any sum of money, shall be recoverable from or payable by the Contractor, the same may be deducted from or any sum then due or which at any time thereafter may become due to Contractor under the contract or under any other contract with BHEL or from his Security Deposit unless the contractor pays the claim on demand.

22. POST TECHNICAL AUDIT OF WORK AND BILLS

BHEL reserves the right to carry out the post-payment Audit and technical examination of the work and final bill including all supporting vouchers, abstracts etc., and enforce recovery of any sum becoming due as a result thereof in the manner provided in the presiding sub- paragraphs. However, no such recovery shall be enforced after three years of passing the final bill.

23. REFUND OF SECURITY DEPOSIT

The Security Deposit may be refunded to the Contractor after completion of the contract provided, after the Contractor shall first have been paid the last and final bill and have rendered a "NO DEMAND CERTIFICATE".

24. FORCE MAJEURE CLAUSE

If, at any time during the continuance of this Contract the performance in whole or in part by either party of any obligations under this Contract shall be prevented or delayed by reason of any War, Hostile acts of the public enemy Civil Commotion, Epidemics, or Acts of God (Floods, Storm/Cyclone, Hurricane, Earthquake etc.) then provided notice of happening of any such event is given by either party to other within 7 days from the date of occurrence thereof neither of the parties shall by reason of such event be entitled to terminate this Contract or claim for damages against the other in respect of such non-performance or delay for such period. Performance under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under this Contract is prevented or delayed by reason of any such event, claims for extension of time may be granted for periods considered reasonable by the respective area **HOD** at his discretion subject to prompt notification by the contractor.

25. ARBITRATION

25.1 Except as provided elsewhere in this NIT, in case Parties are unable to reach an amicable settlement (whether by Conciliation to be conducted as provided in Clause-26 herein above or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the 'Dispute'), then, either Party may, refer the disputes to Arbitral Institution "**Arbitration & Conciliation Centre, Bengaluru (Domestic and International)**" and such dispute to be adjudicated by Sole Arbitrator appointed in accordance with the **Arbitration Centre - Karnataka (Domestic and International) Rules, 2012**.

25.2 A Party willing to commence arbitration proceeding shall invoke Arbitration Clause by giving notice to the other party in terms of section 21 of The Arbitration and Conciliation Act, 1996 (hereinafter referred to as the 'Notice') before referring the matter to arbitral institution.

The Notice shall be addressed to the Head of the Region, Power Sector/ Unit, BHEL, executing the Contract and shall contain the particulars of all claims to be referred to arbitration with sufficient detail and shall also indicate the monetary amount of such claim including interest, if any.

25.3 After expiry of 30 days from the date of receipt of aforesaid notice, the party invoking the Arbitration shall submit that dispute to the **Arbitration & Conciliation Centre, Bengaluru (Domestic and International)** and that dispute shall be adjudicated in accordance with their respective Arbitration Rules **Arbitration Centre - Karnataka (Domestic and International) Rules, 2012**. The matter shall be adjudicated by a Sole Arbitrator who shall necessarily be a Retd. Judge having considerable experience in commercial matters to be appointed/nominated by the respective institution. The cost/expenses pertaining to the said Arbitration shall also be governed in accordance with the Rules of the respective Arbitral Institution. The decision of the party invoking the Arbitration for reference of dispute to a specific Arbitral institution for adjudication of that dispute shall be final and binding on both the parties and shall not be subject to any change thereafter. The institution once selected at the time of invocation of dispute shall remain unchanged.

25.4 The fee and expenses shall be borne by the parties as per the Arbitral Institutional rules.

25.5 The Arbitration proceedings shall be in English language and the seat and venue of Arbitration shall be in Bengaluru, Karnataka only.

25.6 Subject to the above, the provisions of The Arbitration & Conciliation Act 1996 and any amendment thereof shall be applicable. All matters relating to this Contract and arising out of invocation of Arbitration clause are subject to the exclusive jurisdiction of the Court(s) situated at Bengaluru Karnataka only.

25.7 Notwithstanding any reference to the Designated Engineer or Conciliation or Arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree. Settlement of Dispute clause cannot be invoked by the Contractor, if the Contract has been mutually closed or 'No Demand Certificate' has been furnished by the Contractor or any Settlement Agreement has been signed between the Employer and the Contractor.

25.8 It is agreed that Mechanism of resolution of disputes through arbitration shall be available only in the cases where the value of the dispute is less than Rs. 10 Crores.

25.9 In case the disputed amount Claim, Counter claim including interest is Rs. 10 crores and above, the parties shall be within their rights to take recourse to remedies other than Arbitration, as may be available to them under the applicable laws after prior intimation to the other party. Subject to the aforesaid conditions, provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment thereof as amended from time to time, shall apply to the arbitration proceedings under this clause.

25.10 In case, multiple arbitrations are invoked (whether sub-judice or arbitral award passed) by any party to under this contract, then the cumulative value of claims (including interest claimed or awarded) in all such arbitrations shall be taken in to account while arriving at the total claim in dispute for the subject contract for the purpose of clause 27.9. Disputes having cumulative value of less than 10 crores shall be resolved through arbitration and any additional dispute shall be adjudicated by the court of competent jurisdiction.

25.11 In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:

In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs Disputes) as mentioned in DPE OM No.05/0003/2019-FTS-10937 dated 14-12-2022 as amended from time to time.

26. JURISDICTION:

This contract shall be governed by the Law for the time being in force in the Republic of India.

This Contract shall be governed by the substantive and procedural laws of India, as amended from time to time. Subject to the provisions of Clause 25 (Arbitration), and only upon exhaustion of the arbitration proceedings thereunder, the courts at Bengaluru, Karnataka shall have exclusive jurisdiction over any suit or other legal proceedings arising out of or in connection with this Contract.

27. SECRECY OF CONFIDENTIAL INFORMATION:

The Contractor undertakes and agrees that he/it will not disclose or reveal in part or full the proprietary/confidential information, which terms shall mean and include patents, trademarks, service marks, registered designs, copyright, design rights, know-how, confidential information, trade and business names and any other similar protected information of BHEL received during negotiation or currency of the contract to any third party or governmental authorities without written permission from BHEL. In the event of termination or expiry of the contract, the contractor shall return all proprietary/confidential information to BHEL. This clause shall survive termination or expiry of the contract.

BHEL reserves the right to initiate appropriate action including legal proceeds / termination of contract, recovery of damages, penalties etc., if the contractor is found guilty / wrong usage of the documents given by BHEL for any unauthorised activity.

28. SIGNING OF CONTRACT

Each contract document shall be signed by the Contractor with his usual signature. Contract by partnership or Hindu Joint Family firm, may be signed in the FIRM'S name by the Managing Partner or all /one of the Partners

on behalf of the firm or the Karta or Manager for HUF as the case may be. Contract by a Company shall be signed with the name of the Company from a person authorised in this behalf and a Resolution or power of attorney or other satisfactory proof, showing that the person signing the Contract documents on behalf of the Company is duly authorised to do so, shall accompany the contract.

29. FRAUD PREVENTION POLICY

The Bidder along with its associate / collaborators / sub – vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about fraud or suspected fraud as soon as it comes to their notice”.

Fraud Prevention policy and List of Nodal Officers shall be hosted on BHEL website, vendor portals of Units / Regions intranet.

30. TREATMENT OF CASES REGARDING CONFLICT OF INTEREST

The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

- i) If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
- ii) The bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;
- iii) Procurement of goods directly from the manufacturers/ suppliers shall be preferred. However, if the OEM/ Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorised distributor (with/ or without the OEM) from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.
- iv) A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.

The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s), in this regard. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, the same will be

considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/ guidelines.

31. SUSPENSION OF BUSINESS DEALINGS WITH SUPPLIERS / CONTRACTORS:

BHEL reserves the right to take action against Contractors who either fail to perform or Tenderers/Contractor who indulge in malpractices, by suspending business dealings with them in line with BHEL guidelines issued from time to time.

The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms / principal / agents, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com.

If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in any act, including but not limited to, mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or tampers the tendering process or acts or omits in any manner which tantamount to an offence punishable under any provision of the *Bharatiya Nyaya Sanhita [BNS]* or any other law in force in India, or does anything which is actionable under the Guidelines for Suspension of Business dealings, action may be taken against such bidder / supplier / contractor as per extant guidelines of the company available on www.bhel.com and / or under applicable legal provisions. Guidelines for suspension of business

32. BREACH OF CONTRACT, REMEDIES AND TERMINATION: The following shall amount to breach of contract:

- i. Non-supply of material/ non-completion of work by the Supplier/Vendor within scheduled delivery/ completion period as per contract or as extended from time to time.
- ii. The Supplier/Vendor fails to perform as per the activity schedule and there are sufficient reasons even before expiry of the delivery/ completion period to justify that supplies shall be inordinately delayed beyond contractual delivery/ completion period.
- iii. The Supplier/Vendor delivers equipment/ material not of the contracted quality.
- iv. The Supplier/Vendor fails to replace the defective equipment/ material/ component as per guarantee clause.
- v. Withdrawal from or abandonment of the work by the Supplier/Vendor before completion as per contract.
- vi. Assignment, transfer, subletting of Contract by the Supplier/Vendor without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vii. Non-compliance to any contractual condition or any other default attributable to Supplier/Vendor.
- viii. Any other reason(s) attributable to Vendor towards failure of performance of contract. In case of breach of contract, BHEL shall have the right to terminate the Purchase Order/ Contract either in whole or in part thereof without any compensation to the Supplier/Vendor.
- ix. Any of the declarations furnished by the contractor at the time of bidding and/ or entering into the contract for supply are found untruthful and such declarations were of a nature that could have resulted in non-award of contract to the contractor or could expose BHEL and/ or Owner to adverse consequences, financial or otherwise.

x. Supplier/Vendor is convicted of any offence involving corrupt business practices, antinational activities or any such offence that compromises the business ethics of BHEL, in violation of the Integrity Pact entered into with BHEL has the potential to harm the overall business of BHEL/ Owner.

Note- Once BHEL considers that a breach of contract has occurred on the part of Supplier/Vendor, BHEL shall notify the Supplier/Vendor by way of notice in this regard. Contractor shall be given an opportunity to rectify the reasons causing the breach of contract within a period of 14 days.

In case the contractor fails to remedy the breach, as mentioned in the notice, to the satisfaction of BHEL, BHEL shall have the right to take recourse to any of the remedial actions available to it under the relevant provisions of contract.

REMEDIES IN CASE OF BREACH OF CONTRACT

Wherein the period as stipulated in the notice issued under clause -32 has expired and Supplier/Vendor has failed to remedy the breach, BHEL will have the right to terminate the contract on the ground of "Breach of Contract" without any further notice to contractor.

- ii. Upon termination of contract, BHEL shall be entitled to recover an amount equivalent to 10% of the Contract Value for the damages on account of breach of contract committed by the Supplier/Vendor. This amount shall be recovered by way of encashing the security instruments like performance bank guarantee etc. available with BHEL against the said contract. In case the value of the security instruments available is less than 10% of the contract value, the balance amount shall be recovered from other financial remedies (i.e. available bills of the Supplier/Vendor, retention amount, from the money due to the Supplier/Vendor etc. with BHEL) or the other legal remedies shall be pursued.
- iii. wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is 10% of the contract value or more, such security instruments to the extent of 10% contract value will be encashed. In case no security instruments are available or the value of the security instruments available is less than 10% of the contract value, the 10% of the contract value or the balance amount, as the case may be, will be recovered in all or any of the following manners:
- iv. In case the amount recovered under sub clause (a) above is not sufficient to fulfil the amount recoverable then; a demand notices to deposit the balance amount within 30 days shall be issued to Supplier/Vendor.
- v. If Supplier/Vendor fails to deposit the balance amount within the period as prescribed in demand notice, following action shall be taken for recovery of the balance amount:
 - a. from dues available in the form of Bills payable to defaulted Supplier/Vendor against the same contract.
 - b. If it is not possible to recover the dues available from the same contract or dues are insufficient to meet the recoverable amount, balance amount shall be recovered from any money(s) payable to Supplier/Vendor under any contract with other Units of BHEL including recovery from security deposits or any other deposit available in the form of security instruments of any kind against Security deposit or EMD.
 - c. In-case recoveries are not possible with any of the above available options, Legal action shall be

initiated for recovery against defaulted supplier/Vendor.

vi. It is an agreed term of contract that this amount shall be a genuine pre-estimate of damages that BHEL would incur in completion of balance contractual obligation of the contract through any other agency and BHEL will not be required to furnish any other evidence to the Supplier/Vendor for the purpose of estimation of damages.

vii. In addition to the above, imposition of liquidated damages, debarment, termination, descoping, short-closure, etc., shall be applied as per provisions of the contract.

Note:

1) The defaulting Supplier/Vendor shall not be eligible for participation in any of the future enquiries floated by BHEL to complete the balance work. The defaulting contractor shall mean and include:

- (a) In case defaulted Supplier/Vendor is the Sole Proprietorship Firm, any Sole Proprietorship Firm owned by same Sole Proprietor.
- (b) In case defaulted Supplier/Vendor is The Partnership Firm, any firm comprising of same partners/ some of the same partners; or sole proprietorship firm owned by any partner(s) as a sole proprietor.

33. INTEGRITY COMMITMENTS

Integrity Commitment: The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com. Integrity commitment, performance of the contract and punitive action thereof:

COMMITMENT BY BHEL:

BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all bidder(s) in a transparent and fair manner, and with equity.

COMMITMENT BY BIDDER/ SUPPLIER/ CONTRACTOR

The bidder / supplier / contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the ***Bharatiya Nyaya Sanhita [BNS]*** or any other law in force in India.

- The bidder / supplier / contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by govt. of India / BHEL.

- The bidder / supplier / contractor will perform / execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business / money / reputation to BHEL.

-If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in mal-practices, cheating, bribery, fraud or / and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the ***Bharatiya Nyaya Sanhita [BNS]*** or any other law in force in India, then action may be taken against such bidder / supplier / contractor as per the extant guidelines of the company available on www.bhel.com and / or under applicable legal provisions.

-The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines

34. ELIGIBILITY OF A 'BIDDER FROM A COUNTRY WHICH SHARES A LAND BORDER WITH INDIA'

(Order (Public Procurement No. 1) dated 23.07.2020, Order (Public Procurement No. 2) dated 23.07.2020 and Order (Public Procurement No. 3) dated 24.07.2020 issued by Department of Expenditure, Ministry of Finance, Govt, of India in this regard are available at website <https://doe.gov.in/procurement-policydivisions>)

- 1) Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. [Competent Authority for the purpose of registration shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT), as mentioned under Annex I of the Order (Public Procurement No.1) dated 23.07.2020]
- 2) "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.
- 3) "Bidder from a country which-shares a land border with India" for the purpose of this Order means; -
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose beneficial owner is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.
- 4) The beneficial owner for the purpose of (3) above will be as under:
 - (i) In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person (s), has a controlling ownership interest or who exercises control through other means.

Explanation

- a." Controlling ownership interest" means ownership of or entitlement to, more than twenty-five per cent, of shares or capital or profits of the company;

- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholder's agreements or voting agreements;
 - (ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
 - (iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 - (iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 - (v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- 5) An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

35. OPTION CLAUSE:

The Purchaser reserves the right to decrease the quantity to be ordered at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.

36. RIGHT OF REJECTION / NON -PLACEMENT OF PO:

BHEL reserves the right to accept the offers in part or in full, or cancel the Tender enquiry without assigning any reason.

37. LIMITATION OF LIABILITY:

"Notwithstanding anything to the contrary in this Contract or LOA or Work Order or any other mutually agreed document between the parties, the maximum liability, for damages, of the contractor, its servants or agents, shall under no circumstances exceed an amount equal to the Price of the Contract or the Work Order. Neither party shall be liable to the other for any indirect or consequential loss or damage, including but not limited to loss of use, loss of profits, or loss of contracts, or special, punitive, exemplary losses whatsoever, arising out of or in connection with this contract. This shall not be applicable on the recoveries made by Customer from BHEL on account of Contractor, any other type of recoveries for workmanship, material, T&P etc. due from the contractor."

38. CONSEQUENTIAL LOSS:

"Neither party shall be liable to the other for any indirect or consequential loss or damage, including but not limited to loss of use, loss of profits, or loss of contracts, or special, punitive, exemplary losses whatsoever arising out of or in connection with this contract."

39. NOTICES OF ACCIDENTS

In the event of an accident the Contractor shall be required to fill injury report and submit to the Engineer in charge immediately and ensure compliance of ESI / Workmen's Compensation of accident as per the Act. The Contractor shall get the Contract personnel engaged by him insured under workmen's compensation policy from any Insurance company in India before actually starting the work. The Insurance Coverage should be for the entire period of Contract. The Contractor shall comply with the provisions of the Workmen's Compensation Act 1923. (This should be read in connection with the provisions of ESI Act.)

40. DAMAGE / LOSS TO PROPERTY & INJURY TO WORKMEN

The Contractor shall at his own expense reinstate and make good to the satisfaction of the respective area **HOD** and pay compensation for any injury, loss or damage occurred to any property or rights whatever including property and rights of BHEL (or agents) servants or employee of BHEL, the injury loss or damage arising out of or in any way in connection with the execution or purported execution of the contract and further the contractor shall indemnify BHEL against all claims enforceable against BHEL (or any agent, servant or employee of BHEL) or which would be so enforceable against BHEL, in respect of any such injury (including injury resulting in death) loss or damage to any person whomsoever or property including all claims which may arise under the Employees Compensation Act or otherwise.

"BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life / permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below.

- A. Victim: Any person who suffers permanent disablement or dies in an accident as defined below.
- B. Accident: Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious occurrence caused during the manufacturing/operation and works incidental thereto at BHEL factories/offices and precincts thereof, project execution, erection and commissioning, services, repairs and maintenance, trouble shooting, serving, overhaul, renovation and retrofitting, trial operation, performance guarantee testing undertaken by the company or during any works/during working at BHEL Units/Officers/townships and premises/Project sites.
- C. Compensation in respect of each of the victims:
 - a. In the event of death or **permanent disability** resulting from **Loss of both limbs**: Rs 10,00,000/- (Rs Ten lakh)
 - b. In the event of **others permanent disability**: Rs.7,00,000/- (Rs. Seven Lakh)
- D. Permanent Disablement: Permanent Disablement means a disablement classified as **Permanent Total Disablement** under the provisions of **Section 2(I) of the Employees' Compensation Act, 1923**, as amended from time to time.

41. PREFERENCE TO MAKE IN INDIA

"For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017 & 28.05.2018 and subsequent Orders issued by the respective Nodal Ministry shall be applicable even if it is issued after this NIT but before finalization of contract / PO / WO against this NIT. In the event of any Nodal Ministry

prescribing higher or lower percentage of purchase preference and / or local content in respect of this procurement, same shall be applicable.

42. PROCESSING OF PAYMENT FOR MICRO, SMALL & MEDIUM ENTERPRISE (MSME) SUPPLIERS:

"In respect of procurement of goods or services from Micro, Small and Medium enterprises (MSMEs), the settlement of invoice shall be only through any of the TReDS platform (i.e. RXIL Mixchange, Invoicemart, KReDX, C2FO), authorised by the Reserve Bank of India. Such MSME suppliers to select their preferred TReDS platform before award of contract so that the data is captured in the Order /Contract database of the Unit. They also will have the option to change the TReDS platform from the drop down menu on Suvidha portal of BHEL at the time of invoice submission.

Wherever the Trade Receivable is accepted by BHEL, the same shall be validated by the Unit on the respective TReDS platform selected by the supplier.

The routing of invoices through the TReDS platform shall not be construed as mandating discounting of such invoices and the MSMEs supplier shall have the option to avail or not avail financing or discounting of its receivables on the TReDS platform.

In case discounting is not availed by the supplier on TReDS, the trade receivables will be paid through TReDS as per the payment timelines indicated in the contract."

PART-I (TECHNO COMMERCIAL BID)**ANNEXURE-ID****SPECIAL TERMS & CONDITIONS OF CONTRACT****1. PARTICIPATION.**

The Parties who have been suspended or black listed or issued with "Show Cause Notice" by BHEL, EDNBengaluru or any other BHEL Unit will not be allowed to participate in the Tender.

Other than the bidder, none of its group concerns or affiliates etc. shall participate in the tender either directly or indirectly through any other agency under same proprietor / common director(s) / common partner(s).

The bidder should declare the same in the Tender. Even during the course of evaluation / finalization of Tender if it is found that some of the parties are not fulfilling the above clauses, BHEL will not consider them for further participation in the Tender.

2. EVALUATION CRITERIA:

- a. Technical Bids of tenderers will be evaluated for the Pre-Qualification/Technical Eligibility Criteria on the basis of supporting documents and track record of the bidder.
- b. Price Bids of only those tenderers who are found to meet the Pre-Qualification/Technical Eligibility Criteria will be opened. Price Bids will be opened with prior information to the eligible bidders to facilitate the presence of the bidders or their authorized representatives to witness the Price Bid opening.

3. CRITERIA FOR AWARD OF WORK:

1. The evaluation of offer for award of work shall be on the basis of "Total Cost to BHEL/ **Net Cash outflow to BHEL after taking into account of applicable Taxes and Duties.**
2. **The work will be awarded on Package Wise L1 basis.**
3. In case there are more than one L1 bidders, BHEL will invite fresh revised price bids from all such L1 bidders & ranking will be decided based on these revised bids. The new rates quoted should be lower than their previous L1 rates. In case if the revised bids submitted by L1 bidders is also same and none of the bidders are ready for further reduction in their rates, then L1 bidder will be selected based on draw of lots.
4. The quantity mentioned in BOQ / Price bid is tentative. BHEL reserves the right to increase or decrease the quantity during award of work or issue work order in phase manner as per requirement of BHEL.

4. METHOD OF EVALUATION OF PRICES**Priority / Ranking**

1. Net cash outflow to BHEL including all charges, incidentals etc., inclusive of Goods & Service tax (ITC can be availed).

5. RATE FINALIZATION

- a. The lowest price (L1) received against this tender shall not automatically entitle the bidder to award of the Contract. If the L1 price is not considered reasonable or acceptable to BHEL, BHEL reserves the right to negotiate, re-tender, or take any other appropriate action. Tenderers are advised to quote their most competitive prices in the first instance itself.
- b. If the final L1 price is found to be unreasonable or otherwise unacceptable to BHEL, BHEL reserves the right to cancel or short-close the tender without assigning any reason.

6. INTEGRITY PACT (IP)

(a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner.

In case of any complaint arising out of the tendering process, the matter may be referred to any of the below email IDs:

iem1@bhel.in; iem2@bhel.in; iem3@bhel.in

(b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.

Note:

No routine correspondence shall be addressed to the above email-IDs regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:

Details of contact person(s):

- | | | |
|---------|---|--|
| 1. Name | : | G. Mounish, Manager |
| Dept. | : | Common Contracting Department |
| Address | : | New Engineering Building, 2 nd floor, BHEL- Electronics Division,
Bengaluru-560026 |
| Phone | : | 080 2699 8285 |
| e-mail | : | mounishg@bhel.in |
| 2. Name | : | Prem Prakash Jaipuriyar , Sr.DGM |
| Dept. | : | Common Contracting Department |
| Address | : | New Engineering Building, 2 nd floor, BHEL- Electronics Division,
Bengaluru-560026 |
| Phone | : | 8026998452 |
| e-mail | : | jpuriyar@bhel.in |

7. Splitting of contract:

The contract shall be divided amongst L1 bidder and the bidder accepting the arrived L1 price so counter offered as proposed below:

The proposed splitting is as follows:					
No. of technically qualified bidders	No. of vendors accepting L1 rates	% of Contract Value to be awarded to L1	% of Contract Value to be awarded to L2	% of Contract Value to be awarded to L3	% of Contract Value to be awarded to L4
6 (Case-1)	4	50%	25%	15%	10%
5 (Case-2)	3	65%	25%	10%	NA
4 (Case-3)	2	65%	35%	NA	NA
3 (Case-4)	2	65%	35%	NA	NA
2 (Case-5)	2	65%	35%	NA	NA
1 (Case-6)	1	100%	NA	NA	NA
<u>Note:</u> The L1 price shall be counter-offered to the other eligible bidders in the order of tender priority (L2, L3, and so on) until accepted. If none of the bidders accepts the counter-offered L1 rates, BHEL reserves the right to place the entire order on the L1 bidder.					

ANNEXURES

PART-I (No Deviation certificate)

ANNEXURE-A

Note: The following Declaration to be typed on the contractor's Letter Head, duly signed & stamped and to be attached along with your Technical bid of the tender.

I/ We, M/s.have read and clearly understood all the Terms and conditions in Tender Schedule of “Rate Contract for supply of packing materials and Packing of CE Products, Traction equipment and allied components for period of One Year at EDN and ESD” against Tender Ref No: BHEL-EDN/ CCD/ PACKING CONTRACT EDN & ESD/ 2026-27 Date: 05.08.2026 and accordingly we accept the same without any deviation what so ever.

- I/ We unconditionally agree to all the tender conditions and no new conditions are imposed by us in the technical / price bid. I understand in the event of imposing any condition in the technical / price bid, such condition would be ignored by BHEL and only the prices will be considered for the purpose of evaluation”*
- I/ We confirm that none of our group concern or affiliates etc., appears on the list of banned firms / companies by BHEL (list available on www.bhel.com) nor any of the Director / Partner / proprietor of bidder / such group concern or affiliate etc. are involved with such company.*
- I/ We also declare that, we have not been suspended or black listed or issued with Show Cause Notice by BHEL-Electronics Division, Bengaluru or any other BHEL Unit or any PSU/ Government organization.*
- I/ We confirm that other than us, none of our group concerns or affiliates etc. are participating in the tender either directly or indirectly through any other agency under same proprietor / common director(s) / common partner(s).*
- I/ We confirm that if any of the above statement / information furnished by us in this tender is found to be false/ fake at any stage of tender evaluation or during execution of contract, BHEL will have the right to initiate appropriate action including legal proceeds / termination of contract, recovery of damages, penalties etc. as deemed fit.*

(Contractor Signature with Seal)

ANNEXURE-B

PART-I (Declaration)

Note: The following Declaration to be typed on the contractor's Letter Head, duly signed & stamped and to be attached along with your Technical bid of the tender.

Name of Works: "Rate Contract for supply of packing materials and Packing of CE Products, Traction equipment and allied components for period of One Year at EDN and ESD"

Tender Ref No: **BHEL-EDN/ CCD/ PACKING CONTRACT EDN & ESD/ 2026-27** Date: **05.08.2026**

DECLARATION

I / We M/s.
do hereby confirm the following points with ref to the above works, if ordered on us.

1. We do hereby confirm that we will pay (i) at least the minimum wages (minimum basic wages + minimum DA) to all the persons engaged (Un Skilled / Semi Skilled / Skilled /Supervisor category) by us in the above contract as per the Karnataka Government Minimum Wages & also as per any revisions made by the State Govt. from time to time and (ii) Additional Wages as per HR / BHEL circular ref: BHE: HR: W: EW dt 08.04.2014 and (iii) Bonus as per the Bonus Act-1965 along with Wage.
2. We will also pay ESI, PF (both Employer and Employee contributions) & Bonus amounts for total wages to be paid as mentioned in (i) & (ii) of point 1 and challans/ payment proof shall be produced along with invoices for all the respective persons engaged in the above contract.
3. The rates quoted against service charge in this tender will remain firm throughout the entire Contract period and no extra payment against service charges will be claimed from BHEL under any circumstances from our end.
4. We, the contractor, will disburse the salary/wages to all the persons engaged in the contract ONLY through nationalized banking channel in their respective accounts & the relevant Bank statement / proof for Bank payment will also be produced along with PF and ESI challans to the Welfare Section every month for processing our invoices for payment.
5. We will pay the previous month salary in full to our employees before 7th of every month and will not adjust with any advance/ loan /training cost / accommodation cost / repayment due by the employee to us.
6. All the payments to the persons engaged in the contract will be paid only through nationalized bank. No other mode of payment (hand payment / account transfer as advance payment or any other) is acceptable as salary.
7. In case we fail to pay the minimum wages to all the persons engaged in the contract which includes Minimum wages and Additional wages with ESI and PF (both Employee and Employer contributions) for every month including Bonus, BHEL has the right to recover from the outstanding payments to us either under this Contract or in any other Contract(s) or from Security Deposit or from both. In case this amount is insufficient for such recoveries, we shall make good the balance amount by actual payment. In addition, BHEL- Electronics Division, Bengaluru may recover the said amounts through other running contracts from BHEL's sister units.
8. We will obtain and submit Labour License (As applicable), PF and ESI Registration within 30 days from award of work.

(Contractor Signature with Seal)

ANNEXURE-C**A.EMD PAYMENT WIDE SBI-E COLLECT**

This explains how to make Payments to BHEL-EDN, Bengaluru through SBI-E collect. Vendors (EMD and SD Payments payable by others) can utilise this facility. Payments can be made using Internet Banking, Debit Cards/Credit Cards etc. SBI Charges a minimum amount (Service Charge) for every transaction. This may vary according to the MODE selected.

STEP BY STEP PROCEDURE TO REMIT EMD / SD AGAINST TENDER NOTIFICATION:

Login to <https://www.onlinesbi.com>

1. Select State Bank Collect available on the top (pre login page)
2. Accept the terms and conditions and click "PROCEED"
3. Select State of Corporation / Institution as "KARNATAKA "
4. Type of Corporate / Institution as "PSU-Public Sector undertaking "
4. Select PSU-Public Sector Undertaking Name as "BHARAT HEAVY ELECTRICALS LIMITED" and click "SUBMIT ".
5. In the next page, Select Payment Category as "OTHERS" and Sub Category as "EMD / SECURITY DEPOSIT" (As applicable), fill details correctly & click "SUBMIT".
6. If all details entered are correctly populated, click "CONFIRM "to proceed.
7. Make payment as per your convenience. (Options available are payment of fees through SBI Net Banking, State Bank ATM cum Debit Cards / Other Bank Debit / Credit Cards and through SBI Branches).
8. SAVE & Keep the copy of receipt for future reference.

PROCEDURE TO TAKE RECEIPT FOR A PAYMENT MADE, EVEN ON A LATER DATE:

(PLEASE CHECK THE STATUS BEFORE MAKING PAYMENT SECOND TIME)

1. Login to www.onlinesbi.com
2. Select State Bank Collect available on the top (pre login page)
3. Accept the terms and conditions and click "PROCEED"
4. Select "PAYMENT HISTORY "option available on the left side of screen.
5. Using two options as mentioned below, you can get the receipt:
 - a. Type the same Date of Birth, Mobile Number which you have entered at the time of making payment through SB collect. Select the date range and submit.
 - b. If you know the payment reference number, then enter the Reference number (DU...) along with anyone information (Date of Birth / Mobile number, which you have entered at the time of making payment). Select the date range and submit.
6. In the next page, take print out of receipt.

A.1: EMD / SD amount may be remitted through NEFT/ RTGS to BHEL account as per following detail:

Name of Bank:	State Bank of India
Branch:	Chandra Layout Branch, Bangalore 40
IFSC code:	SBIN0004051
Account Number:	31467498356
Account type:	Current Account

ACCEPTANCE FOR ELECTRONIC FUND TRANSFER / RTGS TRANSFER**Annexure -D**

To THE PURCHASE/CONTRACT EXECUTING AGENCY/BHEL

1	NAME & ADDRESS OF THE SUPPLIER / SUBCONTRACTOR	
2	VENDOR CODE assigned by BHEL	
	<u>Details of Bank Account:</u>	
3	NAME & ADDRESS OF THE BANK	
4	NAME OF THE BRANCH	
5	BRANCH CODE	
6	MICR CODE	
7	ACCOUNT NUMBER	
8	TYPE OF ACCOUNT	CURRENT A/C / OD / CASH CREDIT
9	BENEFICIERY'S NAME	
10	IFSC CODE OF THE BRANCH	
11	EMAIL ID	
12	TELEPHONE/MOBILE NO.	

CERTIFICATE I / We hereby agree to receive the payments due from BHARAT HEAVY ELECTRICALS LIMITED by the National Electronic Funds Transfer and/or RTGS Transfer mode by credit to my / our above mentioned Bank Account. I / We also agree that payments made to the above mentioned Account is a valid discharge of the liability of Bharat Heavy Electricals Limited. I / We also agree to bear the applicable Bank Charges for the above mode of transfer. **A copy of the cheque leaf/cancelled cheque leaf of the above account is sent herewith.**

AUTHORISED SIGNATORY WITH NAME SEAL

Banker's Certification

We confirm that we are enabled for receiving RTGS and NEFT credits and we further confirm that the account number of _____
(name of account holder), the signature of the authorized signatory and the MICR and IFSC codes of our Branch mentioned above are correct.

PLACE: (Manager / Officer's)

DATE: Signature Under Bank stamp and Name Seal with Membership No.
(Telephone / Mobile No. _____)

Forwarded to Accounts Dept. We confirm the above details are verified with the records available with us.

Signature of the BHEL Executive with Name Seal (Operating the Contract/Services)

ANNEXURE-E**PROFORMA OF BANK GUARANTEE (in lieu of EARNEST MONEY)
(On non-Judicial stamp paper of appropriate value)**

Bank Guarantee No.....

Date.....

To

BHARAT HEAVT ELECTRICALS LIMITED ELECTRONICS DIVISION, BANGLAORE-560026

Dear Sirs,

In accordance with the terms and conditions of Invitation for Bids/Notice Inviting Tender Ref No: **BHEL-EDN/ CCD/ PACKING CONTRACT EDN & ESD/ 2026-27 Date: 05.08.2026**" (Clause B: Pre- qualification Criteria: Earnest Money Deposit (EMD)), M/s. having its registered office at (hereinafter referred to as the 'Tenderer'), is submitting its bid towards "**Rate Contract for supply of packing materials and Packing of CE Products, Traction equipment and allied components for period of One Year at EDN and ESD**" invited by **BHARAT HEAVT ELECTRICALS LIMITED**, through its **ELECTRONICS DIVISION** Unit at **BANGALORE-560026**.

The Tender Conditions provide that the Tenderer shall pay a sum of **₹20,00,000/- (₹Twenty Lakh only)** as Earnest Money Deposit in the form therein mentioned. The form of payment of Earnest Money Deposit includes Bank Guarantee executed by a Scheduled Bank.

In lieu of the stipulations contained in the aforesaid Tender Conditions that an irrevocable and unconditional Bank Guarantee against Earnest Money Deposit for an amount of **₹18,00,000/- (₹Eighteen Lakh only)** is required to be submitted by the Tenderer as a condition precedent for participation in the said Tender and the Tenderer having approached us for giving the said Guarantee,

we, the[Name & address of the Bank] having our

Registered Office at(hereinafter referred to as the Bank) being the Guarantor under this Guarantee, hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer without any demur, merely on your first demand any sum or sums of **₹18,00,000/- (₹Eighteen Lakh only)** without any reservation, protest, and recourse and without the beneficiary needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding of **₹18,00,000/- (Eighteen Lakh only)**

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor/Contractor/Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment hereunder and the Tenderer shall have no claim against us for making such payment.

We Bank further agree that the Employer shall have the fullest liberty without our consent and without

affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Tender or to extend the time of submission of from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Tenderer and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Tenderer or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Tenderer or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Tenderer and notwithstanding any security or other guarantee that the Employer may have in relation to the Tenderer's liabilities.

This Guarantee shall be irrevocable and shall remain in force up to and including xx.xx.xxxx and shall be extended from time to time for such period as may be desired by the Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Tenderer but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms hereof. However, unless a demand or claim under this Guarantee is made on us in writing on or before the xx.xx.xxxx we shall be discharged from all liabilities under this Guarantee.

We, Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing. Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this Guarantee shall not exceed of **₹18,00,000/- (Eighteen Lakhs only)**
- b) This Guarantee shall be valid up to xx.xx.xxxx.
- c) Unless the Bank is served a written claim or demand on or before xx.xx.xxxx all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank

We, _____ Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of
(Name of the Bank)

Date.....

Place of Issue.....

Note:

1. BG should be valid for six months from the date of tender submission.
2. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier /Bank issuing the guarantee.

ANNEXURE-F

LIST OF CONSORTIUM BANKS			
SL NO.	NATIONALIZED BANKS	SL NO.	PUBLIC SECTOR BANKS
1	STATE BANK OF INDIA	10	IDBI
2	BANK OF BARODA	11	AXIS BANK
3	CANARA BANK	12	HDFC
4	RBL BANK LTD.	13	ICICI
5	EXIM BANK	14	THE FEDERAL BANK LIMITED
6	INDIAN BANK	15	KOTAK MAHINDRA BANK
7	INDIAN OVERSEAS BANK	16	INDUSIND BANK
8	PUNJAB NATIONAL BANK	17	YES BANK
9	UNION BANK OF INDIA	18	HSBC

ANNEXURE-G**INTEGRITY PACT****Between**

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at "BHEL House", Siri Fort, New Delhi - 110049 (India) hereinafter referred to as "The Principal", which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the ONE PART

and

.....(description of the party along with address), hereinafter referred to as "The Bidder/ Contractor" which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

Preamble

The Principal intends to award, under laid-down organizational procedures, Contract/s for **Rate Contract for supply of packing materials and Packing of CE Products, Traction equipment and allied components for period of One Year at EDN and ESD (Tender Ref No: BHEL-EDN/ CCD/ PACKING CONTRACT EDN & ESD/ 2026-27 Date: 05.08.2026)**. The Principal values full compliance with all relevant laws of the land, rules and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint independent External Monitor(s), who will monitor the tender process and the execution of the Contract for compliance with the principles mentioned above.

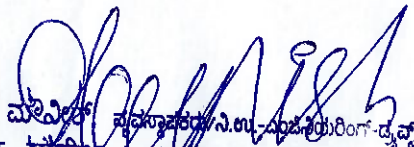
Section 1- Commitments of the Principal

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -

1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

1.1.3 The Principal will exclude from the process all known prejudiced persons.


ಜಿ. ಮೌನಿಷ್, ಪ್ರಬಂಧಕ/ಸಿ.ಇ. ಇಂಜಿನಿಯರಿಂಗ್-ಡ್ರಾಫ್ಟ್
G. MOUNISH, MANAGER/CE-ENGINEERING-DRAWS
BHEL-EDN, MYSURU ROAD, BENGALURU-560026

1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender Process or during the execution of the contract.

2.1.2 The Bidder(s)/ Contractor(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/ PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.1.4 Foreign Bidder(s)/ Contractor (s) shall disclose the name and address of the agent and representative in India and Indian Bidder(s)/ Contractor (s) to disclose their foreign principle or associates. The Bidder(s)/ Contractor (s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

2.2 The Bidder(s)/ Contractor (s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

2.3 The Bidder(s)/ Contractor (s) shall not approach the courts while representing the matters to IEMs and will await their decision in the matter.

Section 3 - Disqualification from Tender process and exclusion from future Contracts

If the Bidder(s)/ Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors" framed by the Principal.


ಜಿ. ಮೌನಿಶ್, ಪ್ರಬಂಧಕ/ಸಿ.ಇ.-ಇಂಜಿನಿಯರಿಂಗ್ ವಿಭಾಗ
G. MOUNISH, MANAGER/CE-ENGINEERING DIVISION
BHEL-EDN, MYSURU ROAD, BENGALURU 560 026

ಜಿ. ಮೌನಿಶ್ ವಹಿವಾಟಕರು/ನಿ.ಸು. ಎಂಜಿನಿಯರಿಂಗ್-ಡೈವ್
 ಜಿ. ಮೌನಿಶ್, ಪ್ರಬಂಧ, ಸಿ.ಇ.-ಇಂಜಿನಿಯರಿಂಗ್
 G. MOUNISH, MANAGER/CE-ENGINEERING
 BHBL-UDM ANDRU ROAD, BENGALURU-560026

Contractor(s). The Monitor is under Contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s) / Sub-contractor(s) with confidentiality in line with Non-disclosure agreement.

8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an interesting bidder regarding any aspects of the tender which allegedly restricts competition or bias towards some bidder. At the same time, it must be understood that IEMs are not consultant to the management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.

8.6 for ensuring the desired transparency all complaints received by them and give their recommendations / views to CMD, BHEL at the earliest. They may also send their report directly to the CVO and the commission in case of suspicion of serious irregularities requiring legal / administrative action. IEMs will tender their advice on complaints within 10 days as far as possible.

8.7 The IEMs would examine all complaints received by them and give their recommendations / views to CMD, BHEL, at the earliest. They may also send their reports directly to the CVO and the commission, in case of suspicion irregularities requiring legal/ administrative action. IEMs will tender their advice on the complaints within 10 days as far as possible/

8.8 The CMD, BHEL shall decide the compensation to be paid to the monitor and its terms and conditions.

8.9 IEM should examine the process integrity they are not expected to concern themselves with fixing of responsibility of the officers. Complaints alleging mala fide on the part of any officer of the organization should be looked into by the CVO of the concerned organization

8.10 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC / PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8.11 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.

8.12 The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration.

9.1 This Pact shall be operative from the date of IP is signed by both the parties till the final completion of contract of successful bidder and for all other bidder 6 months after the Contract has been awarded. Issues like warranty guarantee etc., should be outside the purview of IEMs.

9.2 If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

Section 10 - Other Provisions

10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.

10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

10.3 If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.

10.4 Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.


ಜಿ. ಮೌನಿಶ್, ಪ್ರಬಂಧಕ/ಸಿ.ಇ. ಇಂಜಿನಿಯರಿಂಗ್ ಡಿವಿಷನ್
G. MOUNISH, MANAGER/CE-ENGINEERING DIVISION
BHEL-EDN, MYSURU ROAD, BANGALURU - 560026

Tender Ref No: BHEL-EDN/ CCD/ PACKING CONTRACT EDN & ESD/ 2026-27

Date: 05.08.2026

10.5 Only those Bidders / Contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

For & On behalf of the Principal

(Office Seal) *[Signature]*
जी. मोनिस, प्रबंधक/सी.ई.-इंजीनियरिंग-ड्राइव्स
Place: BHEL-EDN, Mysuru Road, Bengaluru-560026

Date: 05/08/2026

Witness:

Signature:

Name & Address:

P.P. Jaipurigal
[Signature]
05.8.26
BHEL-EDN, MEB.
MM - IMPORTS & CED,
PO Box 2606, Mysuru Rd,
BLR - 560026

For & On behalf of the Bidder/ Contractor

Place:

Date:

Witness:

Signature:

Name & Address:

ANNEXURE-H

On Bidder letter Head

To,

M/s Bharat Heavy Electricals Ltd.
Electronics Division, Mysore Road,' Bangalore –
560026

Sub: Model Clause / Certificate towards Restrictions Under Rule 144 (xi) of the General Financial Rules (GFRs) 2017, Dated 23.07.2020.

Ref: BHEL Tender / RFQ / NIT Number

Based on the under-mentioned declarations of Bidder as insisted under Rule 144(Xi) of General Financial Rules,2017 amendment dt 24.02.2023, eligibility of offer will be ascertained in the tender:

“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that our firm is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that our firm fulfils all requirements in this regard and is eligible to be considered.”

Note: Wherever applicable, evidence of valid registration by the Competent Authority shall be attached.
Additional declaration by Bidder in the cases of specified Transfer of Technology (ToT):

“I have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. I certify that our firm does not have any ToT arrangement requiring registration with the Competent Authority.”

OR

“I have read the clause regarding restrictions on procurement from a bidder having Transfer of Technology (ToT) arrangement. I certify that our firm has valid registration to participate in this procurement.”

For M/s

Authorized Signatory
(with company seal & Name)

ANNEXURE-I

On Bidder letter Head

Date:

To,

M/s Bharat Heavy Electricals Ltd.
Electronics Division, Mysore Road,' Bangalore –
560026

Sub: Model Clause / Certificate as per clause 9 (a) of Revised Public Procurement (Preference to Make in India Order, 2017 of DPIIT dated 13.06.2020.

Ref: BHEL Tender / RFQ / NIT Number

I (authorized signatory for M/s) a 'Class-I Local Supplier' / 'Class-II Local Supplier' at the time of tender, bidding or solicitation hereby confirm that the item meets the Local Content requirement for 'Class-I Local Supplier' / 'Class-II Local Supplier' (Tick appropriate option & cut the other one) and the Local Content percentage is

The address is as below, where the local content / value addition is made:

[Factory Address]

For M/s

Authorized Signatory
(with company seal & Name)

PART-II (PRICE BID)**ANNEXURE-II****(For Reference and Break up of Individual rates and GST)**

SL. NO	DESCRIPTION OF WORKS	UOM	ESTIMATE QTY	TYPE	UNITPRICE (ITEM WISE)	TOTAL PRICE
SCHEDULE-A: Supply of packing material and Packing of C&I Cubicles with Plywood, plywood support batten and other materials as per PLANT STANDARD ED 0490092 Rev 11)						
A.1	Supply of 12 mm thick Comm1 Plywood - MR Grade IS:303, Plywood support batten 18 mm ,other packing materials and packing of C&I and Traction CUBICALS as per scope of work	SQ. MTR OF PLYWOOD	50000	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
A.2	Supply of 12 mm thick Comm1 Plywood - Marine Grade IS:710 , Plywood support batten ,other packing materials and packing of C&I CUBICALS as per scope of work	SQ. MTR OF PLYWOOD	1000	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
A.3	Supply of 12 mm thick Comm1 Plywood - MR Grade IS:303, Plywood support batten 12 mm ,other packing materials and packing of C&I and Traction CUBICALS	SQ. MTR OF PLYWOOD	5000	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		

	(small Size) as per scope of work					
--	-----------------------------------	--	--	--	--	--

SCHEDULE-B: Supply of packing material and Packing of heavier size panels with Plywood along with plywood support batten , mechanical latching unit or suitable nut&bolt and other materials as per PLANT STANDARD ED 0490092 Rev 11						
B.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303, Plywood support batten ,other packing materials and packing of HEAVY EQUIPMENTS as per scope of work	SQ. MTR OF PLYWO OD	1500	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
SCHEDULE-C:Supply of packing material and Packing of [SPARES & MAIN EQUIP] Loose items / spares / Railway VCU / and other items with Plywood along with plywood support batten and other materials as per PLANT STANDARD ED 0490092 Rev 11]						
C.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303, Base Plywood of 12 mm and support batten of 12 mm ,other packing materials and packing of LOOSE ITEMS as per scope of work	SQ. MTR OF PLYWO OD	6000	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		

C.2	Supply of 12 mm thick Comm'l Plywood - MR Grade IS:303, Base Plywood of 18 mm and support batten of 18mm , other packing materials and packing of LOOSE ITEMS as per scope of work	SQ. MTR OF PLYWO OD	9000	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
C.3	Supply of 12 mm thick Comm'l Plywood - Marine Grade IS:710, Base Plywood of 18 mm and support batten of 18mm , other packing materials and packing of LOOSE ITEMS as per scope of work	SQ. MTR OF PLYWO OD	500	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
	SCHEDULE-D:Supply of packing material and Packing of [SPARES & MAIN EQUIPMENT LOOSE ITEMS] items suitable for SPEEDPOST using all sides with 12 mm Thick Commercial Plywood [MR Grade] general purpose with other following pkg materials: Silicagel, Polythene Cover for items, PVC strappings and markings. [No rubber wood supporting battens] as per Drawing					

	Number: .805 - RPP - BOX - 001					
D.1	Supply of 12 mm thick Plywood - MR Grade IS:303 and other packing materials and packing of LOOSE ITEMS SUITABLE FOR SPEEDPOST as per scope of work	SQ. MTR OF PLYWOOD	2500	SUPPLY OF PACKING MATERIAL EXCEPT SUPPORT BATTENS AND PACKING USING THE SUPPLIED MATERIAL		

SCHEDULE-E:Supply and Packing of panels with Galvanised Iron Sheet of Thickness 0.3 mm + /- 0.05mm tolerance with suitable Nails & Wooden batten for covering packed cases as per PLANT STANDARD ED 049 0099 Rev 14					
E.1	Supply of GALVANIZED IRON SHEET OF THICKNESS 0.3MM +-0.05MM with suitable Nails & Wooden batten and covering of PACKED CASES as per scope of work.	SQUARE METER OF GI SHEET	4000	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	
SCHEDULE F: LABOUR CHARGE for packing of materials in plywood using all other materials except plywood/pine /Silver Oak . [Plywood supplied by BHEL.] PACKING CHARGE ONLY					

F.1	LABOUR CHARGE for packing of materials in plywood using all other materials except plywood. [Plywood supplied by BHEL.] (PACKING CHARGE ONLY)	PER SQUARE METER	1000	SUPPLY OF PACKING MATERIAL EXCEPT PLYWOOD AND PACKING USING THE SUPPLIED MATERIAL		
F.2	LABOUR CHARGE for packing of materials (Railway Module) in Carton Box using all other materials except Carton Box and filling material. [Carton Box with filling material supplied by BHEL.] PACKING CHARGE ONLY	NOS.	2500	PACKING USING BHEL SUPPLIED MATERIAL		
G	Supply & packing of HVDC thyristor Modules					
	Supply & packing of HVDC thyristor Modules as per packing standard with Plywood (Base sheet, Pallet Runner & Support Batten) with other packing materials (200micron Plastic cover, Silica gel) as per scope of work <u>Note: XLPE & PE foam will be supplied by BHEL.</u>	NOS.	624	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		

H	Supply And packing in Corrugated carton box as per below sizes :			SUPPLY OF PACKING MATERIAL AND PACKING		
				USING THE SUPPLIED MATERIAL		
a)	150 x 130 x 60 mm	NOS.	1000			
b)	180 x 130 x 60 mm	NOS.	1000			
c)	200 x 150 x 80 mm	NOS.	1000			
I	Supply And packing in COLLAPSIBLE PLYWOOD PACKING BOXES as per IS 303 as per below sizes (outer dimension) (Thickness of plywood pallet - 15 mm and Thickness of plywood top and side cover- 9 mm, Batten/ Runner size - 100 mm (height) X 75 mm (width)			SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
a)	1300 x 1000 x 1000	NOS.	200			
b)	1200 x 800 x 800	NOS.	200			
c)	900 x 900 x 900	NOS.	200			
Total value excluding Contractors profit / Service charge & GST (₹) ---- (A)						
Contractors' Profit/ Service charge (₹).....% of (A) ---- (B)						
Total value including Contractors profit / Service charge (₹) (A+B) ---- (C)						
Goods and Services Tax (GST)@% ----(D)						
Total value including Contractors profit / Service charge & GST (₹) ----(C+D)						

Note: The total value indicated under 'C' should match with the total arrived in 'Item-Rate Price BoQ' in NIC portal.
BHEL will avail Input Tax Credit on GST.

Detailed Annexure-IB

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Sl. No.	DESCRIPTION
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2	Pre-Qualification Criteria for Selection in Techno-Commercial Bid
3	Tender Evaluation and Award of contract
4	Instructions to Tenderers, Statutory Liability and Obligations
5	Quality Of materials & Calculation for payment
6	Time Schedule for completion of Packing works
7	General Terms and Conditions

1) Scope of work and Tender Specification for rate Contract of Packing.

The scope of work covers supplies of packing materials along with accessories & Packing of CE Panel, Traction Equipment's Semi-Conductor Devices and associated components and equipment in BHEL EDN, Mysore Road premises as well as at BHEL-ESD, Electronics city premises as per applicable packing plant standards and product standards of BHEL.

TENDER SPECIFICATION (Guidelines and Procedure).

Part - I: Technical Specification Guidelines and Procedure for Packing of Control Equipment Products, Traction equipment's, Semi-Conductor Devices etc. using Plywood per BHEL-EDN Plant Standard No. ED 049 00 92. Rev 11 (Enclosed) Also using GI Sheet for packing, and Consumables for packing to be supplied by Contractor.

DETAILS OF PACKING MATERIAL TO BE SUPPLIED AND USED FOR PACKING					
SL NO	BOQ SL NO	ITEMS TO BE PACKED	BOX / CASING MATERIAL SPECIFICATION	SUPPORT BATTEN MATERIAL SPECIFICATION	OTHER PACKING ITEMS
1	A1 & A2	CUBICALS (PALLET SUPPLIED BY BHEL)	PLYWOOD 12 mm - MR Grade Manufactured as per IS:303 and MARINE GRADE as per IS:710	PLYWOOD For nailing Plywood sheet of cross section 18 mm thk x 100 to 150 mm width. (The specification of support batten shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)	1.POLYETHENE SHEET (175 MICRONS) 2.BITUMINIZED WATER PROOF KRAFT PAPER 3.BITUMEN COATED HESSIAN POLYETENE KRAFT PAPER 4. RUBBERIZED COIRS 5.SILICA GEL 6.FASTENERS ,NAILS 7.MARKING PLATE, PACKING SLIP HOLDER, FLEX / VINYL DIGITAL PRINT MEDIA FOR LABELLING and INK MARKING 8. Pvc strap (The specification of above items shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)
SL NO	BOQ SL NO	ITEMS TO BE PACKED	BOX / CASING MATERIAL SPECIFICATION	SUPPORT BATTEN MATERIAL SPECIFICATION	OTHER PACKING ITEMS
2	A3	CUBICALS (PALLET SUPPLIED BY BHEL)	PLYWOOD 12 mm - MR Grade - MR Manufactured as per IS:303	PLYWOOD For nailing Plywood sheet of cross section 12 mm thk x 50 to 100 mm width. (The specification of support batten shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)	1.POLYETHENE SHEET (175 MICRONS) 2.BITUMINIZED WATER PROOF KRAFT PAPER 3.BITUMEN COATED HESSIAN POLYETENE KRAFT PAPER 4. RUBBERIZED COIRS 5.SILICA GEL 6.FASTENERS ,NAILS 7.MARKING PLATE, PACKING SLIP HOLDER, FLEX / VINYL DIGITAL PRINT MEDIA FOR LABELLING and INK MARKING 8. Pvc strap (The specification of above items shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)

SL NO	OQ SL NO	ITEMS TO BE PACKED	BOX / CASING MATERIAL SPECIFICATION	SUPPORT BATTEN MATERIAL SPECIFICATION	OTHER PACKING ITEMS & LABELS
3	B1	HEAVIER SIZE PANEL (PALLET SUPPLIED BY BHEL)	PLYWOOD 12 mm thick - MR Grade and termite , fungus proof as per IS:303	PLYWOOD For Nut and Bolt Plywood sheet of cross section 54 x 75 mm width. (The specification of support batten shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11) Chemical Preservation of plywood Not required.	1.POLYETHENE SHEET(175 MICRONS) 2.BITUMINIZED WATER PROOF KRAFT PAPER 3.BITUMEN COATED HESSIAN POLYETENE KRAFT PAPER 4. RUBBERIZED COIRS 5.SILICA GEL 6.FASTENERS ,NAILS ,L clamp, Nut & Bolts Etc 7.MARKING PLATE, PACKING SLIP HOLDER, FLEX / VINYL DIGITAL PRINT MEDIA FOR LABELLING and INK MARKING. 8. Pvc strap (The specification of above items shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)
4	C1	LOOSE ITEMS (SPARES & MAIN EQUIPMENTS) (PALLET 12mm Thickness TO BE SUPPLIED)	PLYWOOD 12 mm thick Plywood - MR Grade as per IS:303	PLYWOOD For nailing Plywood sheet of cross section BATTEN A) 12 mm thk x 50 to 100 mm width (The specification of support batten shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11) Chemical Preservation of plywood Not required.	1.POLYETHENE SHEET(175 MICRONS) 2.BITUMINIZED WATER PROOF KRAFT PAPER 3.BITUMEN COATED HESSIAN POLYETENE KRAFT PAPER 4. RUBBERIZED COIRS 5.SILICA GEL 6.FASTENERS ,NAILS ,L clamp, Nut & Bolts Etc 7.MARKING PLATE, PACKING SLIP HOLDER, FLEX / VINYL DIGITAL PRINT MEDIA FOR LABELLING 8. Pvc strap (The specification of above items shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)
5	C2, C3	LOOSE ITEMS (SPARES & MAIN EQUIPMENTS) (PALLET 18mm thickness TO BE SUPPLIED)	PLYWOOD 12 mm thick Plywood - MR Grade as per IS:303 and MARINE GRADE as per IS:710 and termite , fungus proof	PLYWOOD For nailing Plywood sheet of cross section BATTEN A) 18 mm thk x 50 to 100 mm width. (The specification of support batten shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11) Chemical Preservation of plywood Not required.	1.POLYETHENE SHEET(175 MICRONS) 2.BITUMINIZED WATER PROOF KRAFT PAPER 3.BITUMEN COATED HESSIAN POLYETENE KRAFT PAPER 4. RUBBERIZED COIRS 5.SILICA GEL 6.FASTENERS ,NAILS ,L clamp, Nut & Bolts Etc 7. MARKING PLATE, PACKING SLIP HOLDER, FLEX / VINYL DIGITAL PRINT MEDIA FOR LABELLING and INK MARKING 8. Pvc strap (The specification of above items shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)

SL NO	BOQ SL NO	ITEMS TO BE PACKED	BOX / CASING MATERIAL SPECIFICATION	SUPPORT BATTEN MATERIAL SPECIFICATION	OTHER PACKING ITEMS & LABELS
6	D1	LOOSE ITEMS SUITABLE FOR SPEED POST	PLYWOOD 12 mm thick Plywood - MR Grade and termite , fungus proof as per IS:303 (PLANT STANDARD ED 049 00 92 REV NO 11)	NOT REQUIRED	1.POLYETHENE SHEET (175 / 200 MICRONS) 2.SILICA GEL 3.Plastic bel strip/PVC Patti 4. NAILS, as required etc 5. Fragile sticker/Label 6. Packing Slip Holder Dwg No. 805:RPP:BOX 001
SL NO	BOQ SL NO	ITEMS TO BE PACKED	BOX / CASING MATERIAL SPECIFICATION	SUPPORT BATTEN MATERIAL SPECIFICATION	OTHER PACKING ITEMS & LABELS
7	E1	GI SHEET PACKING	GALVANIZED IRON SHEET OF THICKNESS 0.3MM +-0.05MM AS PER Clause-4 of PLANT STANDARD ED 049 00 99 REV NO 14)	Overlapping to be taken care	SUITABLE NAILS
8	F1	PACKING CHARGES	Wood Supplied by BHEL	Wood Supplied by BHEL	1.POLYETHENE SHEET(175 / 200 MICRONS) 2.BITUMINIZED WATER PROOF KRAFT PAPER 3.BITUMEN COATED HESSIAN POLYETENE KRAFT PAPER 4. RUBBERIZED COIRS 5.SILICA GEL 6.FASTENERS , NAILS , L clamp, Nut & Bolts Etc as required. 7. MARKING PLATE, PACKING SLIP HOLDER, FLEX / VINYL DIGITAL PRINT MEDIA FOR LABELLING and INK MARKING 8 Pvc strap (The specification of above items shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)
9	F2	Labour charges for Packing Carton Box Railway Module Carton Box Sample Sizes 550x500x550 / 650x550x450	Carton Box with filling material Supplied by BHEL	Not Applicable	1.Sealing tape 2. PVC strip/ PVC Patti 3. Address label will be by BHEL. (The specification of above items shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)
10	G	Supply & packing of HVDC thyristor Modules	<u>Note: XLPE foam will be supplied by BHEL.</u>		1. Bolted type Plywood box with MR grade as per IS:303 with plywood batten and plywood pallet runners dwg. No. 36722600805 Rev 04 2. Plywood inside packing instructions (GI2191SH16600102) 3. Labels as per BHEL standard ED0490092 REV 11

11	H. a, b c	Packing of Corrugated Carton Box small size Carton Box Sample Sizes ID Sizes 150x130x60 / 180x130x60 200X150x80	Corrugated Carton Box	Not Applicable	1.Sealing tape 2. PVC Cover 3. Address label will be by BHEL . 4. Carton Box As per Drawing No: 805-SHIP-01 (Title: Packing Box-Shipping (Misc.) (The specification of above items shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11 & DWG MISC SHIP)
12	I a b c	COLLAPSIBLE PLYWOOD PACKING BOXES	PLYWOOD 9 mm thick Plywood (+- 1MM) - MR Grade as per IS:303 Pallet Thickness 15mm	Side corner steel sheet 0.5 mm (+-0.05MM) Top and Bottom steel 0.5 mm +-0.05MM	1.POLYETHENE SHEET(175 MICRONS) 3.BITUMEN COATED HESSIAN POLYETENE KRAFT PAPER 4. RUBBERIZED COIRS 5.SILICA GEL 6.FASTENERS ,NAILS ,L clamp, Nut & Bolts Etc 7.MARKING PLATE, PACKING SLIP HOLDER, FLEX / VINYL DIGITAL PRINT MEDIA FOR LABELLING 8. Pvc strap (The specification of above items shall be as per clause-3 of PLANT STANDARD ED 049 00 92 REV NO 11)

Note : Additional support battens/Cross battens of suitable sizes are to be provided on need basis !

SAMPLE SIZE ANNEXURE

Schedule No	Description	Sizes OD(Outer Dimension) (Length X Width x Height)
A1 , A2 & A3	PLYWOOD CUBICLES (Without Pallet) (MR303 & Marine 710 with ply wood batten)	Single suite cubicle OD- 940mm x1010 x 2300 Other sizes OD Length (940 to 4950), Width (1010 to 1600mm) Height (1800 to 2700)
B1	TRACTION EQUIPMENT CUBICALS OR HEAVIER SIZE PANEL (Without Pallet) (Plywood MR303 with Plywood batten)	3200mmx1400mmx2450mm 3200mmx1600mmx2000mm 3950X1400X2450MM
C1,C2,C3,	LOOSE ITEMS (SPARES & MAIN EQUIPMENT) (With Pallet) (MR303 & Marine 710 with ply wood batten)	400mmx400mmx400mm Other sizes OD Length (400 to 3200), Width (400 to 1600mm) Height (400 to 2700)
D.1	LOOSE ITEM SUITABLE FOR SPEEDPOST	300mmx300mmx150mm Other sizes OD Length (300 to 500), Width (300 to 600mm) Height (300 to 600)
E.1	GI SHEET COVERING	Single suite cubicle OD- 940mm x1010 x 2300 Other sizes OD Length (940 to 4950), Width (1010 to 1600mm) Height (1800 to 2700) 400mmx400mmx400mm Other sizes OD Length (400 to 3200), Width (400 to 1600mm) Height (400 to 2700)
F.1	PACKING CHARGES	Single suite cubicle OD- 940mm x1010 x 2300 Other sizes OD Length (940 to 4950), Width (1010 to 1600mm) Height (1800 to 2700) 400mmx400mmx400mm Other sizes OD Length (400 to 3200), Width (400 to 1600mm) Height (400 to 2700)
F.2	Labour charges for Packing Carton Box Railway Module	Carton Box Sample Sizes 550x500x550 / 650x550x450

Part – II: Scope of supply of Items list for Packing and supply:

Schedule of quantity for Packing of Control Equipment products, Traction equipment's, semiconductor Devices, etc. mentioned in Bill of Quantity(BOQ).

Major items using Plywood of different Grades, Labour charge, Using GI Sheet for packing, and Consumables for packing to be supplied by Contractor.

Note: 1. Quantity indicated in the schedule (i.e. BOQ) is only as per projected plan for One year, it may vary in each line item based on actual production plan issued by management from time to time. However, the overall value of each vendor will be limited to contract value issued after finalization of tender (i.e work order).

2. L1, L2, L3 L4 etc., shall be decided/finalized based on overall cost of total package (Not on line item and irrespective of items).

SL NO	DESCRIPTION OF WORKS	SCOPE OF WORKS	UOM	ESTIMATE QTY
A.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Plywood support batten 18 mm ,other packing materials and packing of C&I and Traction CUBICALS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	50000
A.2	Supply of 12 mm thick Plywood - Marine Grade IS:710 Plywood support batten 18mm ,other packing materials and packing of C&I CUBICALS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	1000
A.3	Supply of 12 mm thick Plywood - MR Grade IS:303 with Plywood support batten 12mm ,other packing materials and packing of C&I CUBICALS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	5000
B.1	Supply of 12 mm thick Plywood - MR Grade IS:303 , Plywood support batten ,other packing materials and packing of HEAVIER PANELS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	1500
C.1	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Base Plywood of 12 mm and support batten of 12 mm , other packing materials and packing of LOOSE ITEMS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	6000
C.2	Supply of 12 mm thick Comml Plywood - MR Grade IS:303 , Base Plywood of 18 mm and support batten of 18mm ,other packing materials and packing of LOOSE ITEMS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	9000

C.3	Supply of 12 mm thick Comml Plywood - Marine Grade IS:710 , Base Plywood of 18 mm and support batten of 18 mm ,other packing materials and packing of LOOSE ITEMS as per scope of work	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	500
D.1	Supply of 12 mm thick Plywood - MR Grade IS:303 and other packing materials and packing of LOOSE ITEMS SUITABLE FOR SPEEDPOST as per scope of work	SUPPLY OF PACKING MATERIAL EXCEPT SUPPORT BATTENS AND PACKING USING THE SUPPLIED MATERIAL	SQ. MTR OF PLYWOOD	2500
E.1	Supply of GALVANIZED IRON SHEET OF THICKNESS 0.3MM +-0.05MM with suitable Nails & Wooden batten and covering of PACKED CASES as per scope of work.	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	SQUARE METER OF GI SHEET	4000
F.1	LABOUR CHARGE for packing of materials in plywood using all other materials except plywood. [Plywood supplied by BHEL.] (PACKING CHARGE ONLY)	SUPPLY OF PACKING MATERIAL EXCEPT PLYWOOD AND PACKING USING THE SUPPLIED MATERIAL	PER SQUQRE METER	1000
F.2	LABOUR CHARGE for packing of materials(Railway Module) in Carton Box using all other materials except Carton Box and filling material. [Carton Box with filling material supplied by BHEL.] PACKING CHARGE ONLY	PACKING USING BHEL SUPPLIED MATERIAL	NOS.	2500
G	Supply of packing material & packing of HVDC thyristor Modules			
G	Supply & packing of HVDC thyristor Modules as per packing standard with Plywood (Base sheet, Pallet Runner & Support Batten) Note: XLPE foam will be supplied by BHEL.	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL	NOS.	624
H	Supply and packing in Corrugated carton box as per below sizes :	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
H.a	ID :150 x 130 x 60 mm		NOS	1000
H.b	ID:180 x 130 x 60 mm		NOS	1000
H.c	ID:200 x 150 x 80 mm		NOS	1000
I	Supply And packing in COLLAPSIBLE PLYWOOD PACKING BOXES	SUPPLY OF PACKING MATERIAL AND PACKING USING THE SUPPLIED MATERIAL		
I.a	OD:1300 x 1000 x 1000			200
I.b	OD:1200 x 800 x 800			200
I.c	OD:900 x 900 x 900			200

2. Pre-Qualification Criteria for Selection in Techno-Commercial Bid

- (i) Experience of having successfully completed similar works during last 7 years ending last day of month previous to the one in which applications are invited should be either of the following: -
 - a) Three similar completed works costing not less than Rs.260 LAKHS
 - Or
 - b) Two similar completed work costing not less than Rs.325 LAKHS
 - Or
 - c) One similar completed work costing not less Rs. 521 LAKHS

Note: Similar works means supply of packing materials with packing works OR supply of packing materials like packing boxes/shooks.

- (ii) Tenderer should have average annual financial turnover of Rs 195 LAKHS during the last three financial years (Year 2022-23, 2024-25, 2025-26).
- (iii) Supply the packing material as per specifications and compliance of IS 303 for MR Grade and IS 710 for Marine Grade.
- (iv) The Tenderer should have a legal status such as that of a Proprietary concern/ Partnership firm/ Company
- (v) The tenderer should have manufacturing facility / Supply facility for the items (Ply wood/Carton Box) for which they have quoted.
- (vi) “The firms/vendors/contractors who are in the BHEL banned list are not eligible to participate in this tender. The offers received from such firms/vendors/contractors will be rejected. The list of banned firms is available on BHEL website www.bhel.com”. Self-declaration letter required.
- (vii) The Tenderer should have ESI, PF, and GSTIN PAN No. Number allotted in its name. The letters issued by the concerned authorities should be enclosed with the Technical Bid of the Tender to evidence such registration. (In case not available, proof of having applied with acknowledgement from concerned authority).
- (vii) All the terms & conditions of the contract with respect to Taxes & Duties are subject to the new taxation laws introduced from time to time. The terms & conditions will be modified in accordance with the provisions of new laws.

(viii) **Labour licence (Central/State Government):** The contractor shall execute the work only after obtaining Labour Licence, wherever applicable, under Contract Labour (Regulation & Abolition) Act, 1970.

(ix) The Tenderers should have categorically confirmed acceptance of all the Tender terms and condition including the payment terms. On non-compliance / conformity of the above, offer is liable for rejection.

3. Tender Evaluation and Award of contract : BHEL reserves the right to split the quantity and Award the Contract to more than one vendor. Contract will be awarded to a maximum of 4 contractors for schedule of work. (BHEL reserves the right to limit the allocation to less than 4 contractors also). If required; BHEL will negotiate with the vendor who is L1 for total **schedule** as above, and then counter offer the negotiated L1 rates to other vendor from L2, L3,L4 Etc.,till a maximum of 4 contractors are available for total package of all items . The proposed ratio from L1 to L4 for awarding the contract on L1 rates/negotiated L1 rates will be approximately as follows:

	L1	L2	L3	L4
Lx	% age	% age	% age	% age
L1	100			
L1,L2	65	35		
L1,L2,L3	65	25	10	
L1,L2,L3,L4	50	25	15	10

3.1 Manpower Deployment Schedule

The tentative / indicative number of manpower required on daily basis to carry out the job (HSW-2, SW-13, SSW-4, USW-2). However, this number may vary based on work order value. **Vendor shall arrange additional manpower to meet packing requirement as and when required to meet the target as per contract Executing Department.** The contractor shall deploy manpower daily basis as per below mentioned schedule based on award of work value:

Sl No.	% of work awarded	No. of manpower to be deployed on daily basis	% of work awarded	No. of manpower to be deployed on daily basis	% of work awarded	No. of manpower to be deployed on daily basis	% of work awarded	No. of manpower to be deployed on daily basis
1	50%	10 Nos	65%	12 Nos	65%	12 Nos	100%	22 Nos.
2	25%	6 Nos	25%	6 Nos	35%	10 Nos	NA	NA
3	15%	4 Nos	10%	4 Nos	NA	NA	NA	NA
4	10%	4 Nos	NA	NA	NA	NA	NA	NA

The Packing work entrusted to each contractor will depends on the following criteria, during the execution of the contract:

- (i) The Number of Workmen employed.
- (ii) Stock of Packing Materials supplied and kept at our works, by the Contractor at any point of time.
- (iii) Performance of the Contractor and timely completion of the work.
- (iv) Readiness of the Contractor to take-up the job at short notice and to meet our monthly schedule that will be issued periodically.
- (v) Raising to the occasion, during peak loads, in such occasion vendor has to deploy additional manpower to complete the packing works.
- (vi) The Packing work shall normally be done between 7.30AM and 4.36 PM on working days. However, the same shall be done beyond normal working hours on the directions of executing officers whenever the work load is temporarily increased. No overtime wages or additional payments or allowance for you or your employees deployed for such work will be payable by BHEL for working beyond normal working hours.
- (viii) Movement for materials to be packed, packing material, packing activities, clearing of packing area for receipt of new material for Packing shall be carried out by the contractor's manpower only. The forklift, hand pallet trolley

(HPT), and battery-operated pallet truck (BOPT) will be provided by BHEL. The contractor's manpower shall be responsible for the movement of packing materials, packing operations, movement of packed boxes, and all other activities, as instructed by the Shipping Department Supervisor/Executive. Any training required for carrying out these activities will be provided by BHEL.

4. Instructions to Tenderers, Statutory Liability and Obligations

Contractors experienced in supply of packing material and packing works of similar nature. A questionnaire duly filled and signed along with all relevant certificates (copies) and documents as per the questionnaire **All the pages of questionnaire, certificates, documents shall be signed / self attested by authorized representative of your company.**

Price Bid must contain the following details:

- Packing services for each unit rate for supply of finished shooks/boxes along with required accessories.
- Applicable SGST/CGST amount shall be indicated for Material.
- Applicable SGST/CGST amount on packing service charges shall be indicated.
- Cost to be indicated by multiplying unit rate & unit quantity.
- HSN code to be mentioned

[4.1] IMPORTANT POINTS:

- i BHEL reserves the right to call for additional information and/or check, verify all the information furnished in the application.
- ii BHEL also reserves the right to inspect all premises/facilities to confirm the authenticity of information furnished / capabilities mentioned in the application.
- iii BHEL reserves the right to reject any or all the applications which are not as per tender terms with assigned any reasons within the norms.
- iv BHEL's decision shall be final on all the matters relating to this tender.
- v Taxes quoted by you will be taken for GST credit. The taxes prevailing as on the date will be considered. However, in case of changes made by the Government from time to time, the same will be considered during the progress of contract for payment and claim purposes. In case, no Tax is included, a self-declaration for exemption may be attached along with the offer.
- vi **In quoting their rates, the Tenderers are advised to take into account all factors including any fluctuations in the market rates for materials, wages for your employees, transportation charges etc. till the contract period.**
- vii The rates quoted in the Tender shall remain valid for a period of three months from the date of opening of the bid.

- viii **Before submission of Tender, the Tenderers are necessarily advised to inspect the site of work and its environment and be well acquainted with the actual working and other prevailing conditions including various best practices adopted by BHEL with respect to position of the materials and labor here.** Pre-bid meeting deliberating the aspects involved in the contract can be arranged on request to ensure proper understanding by the Tenderers who wish to participate. The bidders are expected to be well versed with BHEL-General Conditions of Contract (GCC), Instructions to Tenderers, specifications and all other documents, which form part of the Agreement to be entered into subsequent to award of work.
- ix Details and quantities of each item of work shown in the Tender schedule attached hereto are only approximate. They are given as a guideline for the purpose of Tendering only and are liable to variations and alterations at the discretion of the competent authority throughout the contract period from the date of commencement of work. The work under each item as executed shall be measured and paid at the corresponding rates to be quoted by the Tenderer in the Tender Schedule Format attached hereto.
- x The Packing work shall normally be done between 7.30AM and 4.36 PM on working days. However, the same shall be done beyond normal working hours on the directions of executing officers whenever the work load is temporarily increased. No overtime wages or additional payments or allowance for you or your employees deployed for such work will be payable by BHEL for working beyond normal working hours.

[4.2] **PERIOD OF CONTRACT:** This contract will be for a period of **One Year** from the date of award of contract. BHEL shall have absolute right to terminate the contract at any time during the period of contract without assigning any reason thereof and the tenderer is not entitled for any compensation on the ground of such termination.

[4.3] **DISQUALIFICATION:** If the bidder/contractor attempt to do any act, which defames the goodwill of BHEL it will be treated as disqualification of the party and the contract will be terminated at any time. The offers received from any bidder who had been convicted or against whom any kind of criminal cases are pending on complaint, will not be considered.

[4.4] **CONTRACTOR'S STATUTORY LIABILITY:**

Contractor shall comply all statutory requirements with the provisions of all the applicable Acts, Central or State, and Rules made thereunder, particularly in respect of Factories Act 1948, Karnataka Labour Welfare Fund Act, 1965, Child Labour Prohibition Act 1986, Employer's Liability Act, 1938, Industrial Disputes Act 1947, Minimum Wages Act 1948, Payment of Wages Act 1936, Employee's Compensation Act 1923, Payment of Gratuity Act 1972, ESI Act 1948, the Contract Labour [Regulation & Abolition] Act 1970, Payment of Bonus Act 1965, Income Tax Act 1961, Maternity Benefit Act 1961,

applicable Tax Rules & other Acts -Central or State and Rules, Regulations and Notifications by the concerned authorities thereto and amendments made thereunder from time to time along with other statutory obligations and relevant labour laws that may be applicable to him in relation to employment of his labourers, payments etc. and service Tax rules and all other applicable Acts and rules issued from time to time shall be complied with by the contractor. The Contractor shall apply and obtain License under the Contract Labour (R&A) Act 1970, and comply with the relevant provisions, in respect of the Labour employed by him for executing this Contract. The Contractor shall furnish necessary returns to the authority through the principal employer.

[4.5 PAYMENT OF PRESCRIBED MINIMUM WAGES

Basic Wages notified by Govt. of Karnataka and the variable Dearness allowance / Cost of living Allowance as given below shall be paid to the contract labour engaged by contractors in the establishment of BHEL-EDN Bangalore w.e.f 01.04.2026.

Category	Karnataka State Basic Wages (Rs./day)	Karnataka State VDA w.e.f. 01.04.2024 (Rs./day)	State Minimum Wages effective from 01.04.2024 (Basic+VDA) (Rs./day)	Corporate Addl. Allowance (Rs./day)	Wages including Corporate Addl. Payment w.e.f. 01.04.2024 (Rs./day)
1	2	3	4	5	6
Unskilled	445.69	174.97	620.66	123.08	743.74
Semi-Skilled	490.25	174.97	665.22	142.31	807.53
Skilled	539.28	174.97	714.25	157.69	871.94
Highly-Skilled	593.21	174.97	768.18	173.08	941.26

Note : Although the govt of India has enacted four labour codes central and state rules thereof with specific reference to the code on wages 2019 are yet to be finalized. Consequently, the existing minimum wage frame work of the Government of Karnataka will be followed at EDN in respect of Contract workers engaged through contractors until further statutory notification.

No Labourer shall be paid less than the state minimum wages mentioned above (Column No.4 of the table) other Allowances such as corporate Add. Allowance , washing allowance etc. are payable as per the terms of contract.

Any periodic change in minimum wages and Statutory compliance as notified by appropriate Govt. during the contract period shall be borne by the contractor.

The total wages as communicated by BHEL during last 5-year period taking into account average consumer Price Index is given below (the details given below is indicative of the past trend only):

Category	Wages per day					
	From 01/04/2020	From 01/04/2021	From 01/04/2022	<i>From</i> <i>01/04/2023</i>	From 01/04/2024	From 01/04/2025
USW	618.57	635.05	654.66	677.88	704.09	726.98
SSW	682.36	698.84	718.45	741.67	767.88	790.77
SW	746.77	763.25	782.86	806.08	832.29	855.18
HSW	816.09	832.57	852.18	875.40	901.61	924.50

USW=Unskilled, SSW=Semi-skilled, SW=Skilled , HSW= Highly skilled labour

The Contractor shall also make payment for holidays (12 days per year), Earned Leave (15 days per year) and washing allowance @125/- per month.

[4.6] **WELFARE MEASURES:** As a welfare measure towards his workers who may be deployed under this contract, the Tenderer must consider Washing Allowance @ Rs.125 per month per person and take it into account in your estimate and the quoted rate shall be inclusive of the above incentives/allowances as well.

BHEL reserves the right to advise the contractor to extend any further welfare facility in future for the employees of the contractor (over & above the wage rates envisaged as mentioned above i.e., existing wage structure and also allowances as above) on reimbursement basis.

The workmen engaged under this contract shall be provided with 2 pairs of their factory uniform (the color of the uniform should be different from BHEL uniform) with stitching charges, 1 pair of shoes, 2 pairs of socks during the contract period by the contractor of which the cost shall be included in his quoted unit rates.

[4.7] **COMPLIANCE WITH ESI / PF LAWS:** Contractor should ensure that the employees allowed to enter BHEL premises shall be covered under independent code numbers under EPF Act 1952 and ESI Act 1948 and shall cover his employees under the Employees Provident Fund schemes and Employees State Insurance Act 1948, subject to the wage ceiling prescribed under the Act from time to time and show proof of payment of subscriptions/contributions to the concerned authorities. The contractor shall also indicate ESI No., PF No., GST No. in the techno-commercial bid if available. In case the contractor do not have the ESI & PF Code while quoting, he should immediately apply for the same after award of the contract and get it in a reasonable time. Contractor shall ensure payment of ESI contribution under ESI Act 1948 and provide ESI membership No. card of each employee. Contractor shall maintain proper records of PF, EDLI, Pension, ESI contribution, ¹³administrative charges etc., wherever applicable and

shall produce proof of deductions as well as remittances. Contractor shall issue wage slips to his employees. Contractor shall furnish proper Returns to the concerned statutory authorities and provide a copy of the same to BHEL. These returns shall be subject to verification whenever the statutory authorities/ inspectors visit BHEL for inspection of records of the contractors.

Contractor shall be solely responsible for non-payment / delayed payment of wages / allowances, contributions under EPF, ESI Act etc. The basic rates to be quoted by the Tenderer shall be firm for material, labor and shall cover and include all statutory levies and contribution such as ESI, PF etc payable by the contractor for the workers he may deploy to carry out the job. In case, the contractor fails to make payment of wages to his employees or remittance of contribution to the concerned authorities & a claim is made against BHEL for what so ever reason, the security deposit /other dues/ running bills under the contract can be utilized by BHEL to discharge the liability of the contractor.

The contractor shall ensure that his labour who are not under the purview of ESI Act, 1948, are covered under Employees' Compensation Policy from any Insurance company in India before starting the work. The Insurance Coverage should be ensured for the entire period of Contract. The Contractor shall comply with the provisions of the Employees' Compensation Act 1923.

[4.8] **INDEMNITY:** Contractor shall indemnify BHEL against all claims and losses if it suffers under various labor laws, statutes or any civil or criminal law in connection with employees deployed by him. The liability for any compensation on account of injury sustained by an employee of the contractor will be exclusively that of the contractor, as BHEL is not the employer for him. Contractor shall obtain necessary insurance cover at his own cost to mitigate any risk of accidents, losses, damages etc. BHEL shall not be responsible for any losses, damages to the contractor or to his employees.

Payment of bonus under the Payment of Bonus Act, payment of gratuity under the Payment of Gratuity Act, and retrenchment compensation under ID Act will be the sole responsibility of the contractor. Contractor is liable to pay the statutory bonus to their employees, as per Payment of Bonus Act. In case, BHEL advises the contractor to pay any additional amount of Bonus to their workers over and above the statutory bonus, the same has to be paid by the contractor to their employees. The difference, in such an event, can be reimbursed from BHEL with indicated additional service charges.

[4.9] **Bonus:** Bonus shall be @ 8.33%(of basic +corporate allowance +VDA) or limited to Rs.7000/- per year, whichever is higher payable by the contractor for the workers he may deploy to carry out the job subject to wage ceiling of (Basic +corporate allowance +VDA) Rs.21000/- per month (Under various enactments passed by Parliament or the by the State legislature and Rule framed thereunder). In case, BHEL advises the contractor to pay any additional amount of Bonus to their workers the same has

to be paid by the contractor to their employees. The difference, in such an event, can be reimbursed from BHEL.

[4.10] **FACTORIES ACT:** Contractor shall observe provisions of Factories Act in respect of working hours, holidays, rest intervals, leaves and overtime to his employees, who may be deployed in BHEL premises & maintenance of necessary registers, forms and statutory formats which shall be always available for inspection by BHEL or Factory Inspectorate. No work shall be done on second / third shift, overtime, Sundays or on other declared holidays without written permission from BHEL. Over and above the daily wages rate, the contractor shall make payment to his employees deployed under this contract towards leave with wages also. Contractor shall be responsible for making payment of wages before expiry of 7(seven) days from the last day of wage period and to ensure disbursement of wages in the presence of the representative from BHEL.

[4.11] **FAILURE OF CONTRACTOR:** In case the contractor does not carry out the contractual / statutory obligations or the services rendered by him are found to be unsatisfactory, BHEL shall bring the same to his notice and he will be obliged to discharge the obligations and rectify the deficiency / anomaly within three day's time failing which, BHEL reserves the right to terminate the contract without assigning any reason whatsoever. In such an event, no damages will be payable for short closure of the contract and the contractor shall be liable to BHEL for any loss or hardships it may suffer, such termination shall be for the contractor's default and any money including deposits or bills available with BHEL will be forfeited and any further claim on the contractor may be made by BHEL for recovery of any loss. The decision of BHEL regarding interpretation of any terms and conditions set forth in this agreement shall be final and binding on the contractor.

Failure to employ adequate number of persons, or failure to supply required qty of packing materials, resulting in dislocation of the work will be construed as breach of the terms and conditions under this agreement, and will entail termination of the Contract forthwith and re-arrangement of the work through other agencies, at the risk and cost of the Contractor.

[4.12 Contractor's Obligations:

Contractor shall deploy number of workmen as per Contract Executing officer for execution of the work awarded to him and he or his authorized representative will be solely entitled to instruct such workers about the manner in which the awarded work is to be carried out as per the prescribed specifications and as may be directed by Engineer-In-charge. The contractor shall provide Employment certificate to his workmen and also shall obtain License in terms of statutory Regulations from Labour Authorities for enabling him for such work. The Contractor shall be fully responsible for the work awarded to him and shall depute a supervisor to supervise work to be carried out by his workmen. The work shall be executed as per work instructions to the satisfaction of Engineer-In-charge. Contractor shall maintain appropriate

records of his employees deployed to carry out the job(s). Contractor will be fully responsible for the good conduct of his employees deployed to execute the work. In case of any misconduct/ misbehavior by any employee, the contractor will replace such employee(s) immediately. The contractor shall be responsible for ensuring that all precautions are taken for safety of his employees and in enforcing all safety regulations as applicable by strictly ensuring wearing of safety equipments by them inside the factory while undertaking the work Tendered. BHEL may provide safety protective appliances wherever required other than vendor scope of clause no..7.15 (General Terms and Conditions). The contractor should ensure that his employees deployed in this work wear a neat and tidy distinct uniform, different from BHEL employees having logo of the contractor's firm / company. In the event of termination of contract for any reason whatsoever, the contractor shall withdraw all his employees and his equipment's, if any; from the establishment of BHEL.

[4.13] Taxes:

In price bid, the bidder shall indicate item wise cost with applicable taxes separately. Accordingly, indicate separately a) basic unit material cost item- wise, b) applicable GST amount for material portion, c) basic unit packing service charges item wise, d) GST amount on packing service charges, wherever applicable.

For cost comparison, the TOTAL COST OF ALL ITEMS to BHEL as per working Schedule enclosed will be considered. BHEL reserves the rights to alter the procedure / methodology for cost comparison after due verification of applicable credit benefit issues which are relevant to this.

[4.14] Bills submission:

The Contractor shall submit bills after completion of packing and the payment will be made after receipt of the bill and supporting documents in satisfactory condition.

-Methodology for Bills raising:

Delivery Challan: At the time of supply of packing materials by contractor the Delivery challan(DC) will be duly verified by Security personnel and material verification by QC department. No payment will be made on these supplies till completion of packing. Original DC will be retained at shipping.

This delivery challan/bill shall contain the following (it has to be all inclusive):

- Date and number of the delivery challan.
- Name, address and GSTIN of the consigner,
Name, address and GSTIN or Unique Identity Number of the consignee,
- HSN code for the goods.
- Description of goods. (Details of Packing shooques sizes with quantity, area or volume as applicable and value shall be as per contract shall be indicated)
- Quantity of goods supplied
- Taxable value of supply.
- GST tax rate and tax amount broken down as CGST, SGST, IGST – where the transportation is for supply to the consignee.
- Place of supply (in case of inter-state movement of goods.)

- Signature

Packing Bill: After completion of the packing work, the vendor shall submit bill for packing material and packing service charges as per rate contract item wise and relevant GST.

1. Invoice 3 copy
2. Packing list annexure
3. HR Documents
4. Quality signed Original Packing list
5. Self-certification for Plywood IS MR 303 /IS 710
6. Test Certificate

The invoice shall be in accordance with the Work Order (WO) duly supported with documents as called in the WO and shall contain BHEL WO No and WO Schedule, WO Item no. and Description, Quantity, Rate.

Terms & Conditions to be complied under GST regime:

1. All invoices to contain BHEL-EDN (buyer) GSTIN number: 29AAACB4146P1ZB
2. The Bidder shall mention Bidder's GSTIN number, HSN (Harmonized System of Nomenclature), SAC (Services Accounting Code) mandatorily in all quotations and Invoices submitted
3. Invoice submitted should be in the format as specified under GST Laws viz., all details as mentioned in Invoice Rules like GST registration number(GSTIN), invoice number with date of issue, quantity, rate, value, taxes with nomenclature – CGST, SGST, UGST,IGST mentioned separately, HSN Code / SAC Code etc. Invoice should be submitted in original for buyer plus duplicate for credit availment.
4. Vendor to upload the GST Invoice details in the GSTN Portal for BHEL to avail credit in time
5. Payment of GST to Vendor will be made only if it is matching with data uploaded by the Vendor in GST portal.
6. In case GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount will be recoverable from vendor along with interest levied/ leviable on BHEL.
7. In case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law will be recoverable from vendor/contractor along with interest levied/ leviable on BHEL.
8. Vendor should intimate BHEL immediately on the same date of invoicing without any delay.
9. Bidders to note that Rules & Regulations pertaining to E-way bill system are to be strictly adhered to.
10. Credit note to be provided for any disallowance / mismatch, pending which GST payment will be on Hold.
11. Give an undertaking that GST as mentioned in the invoice has been paid/will be paid either through cash or admissible input credit and also file the returns.

5 Calculation for payment.

DETAILS OF PROCEDURE TO BE FOLLOWED FOR PACKING					
SL NO	BOQ SL NO	ITEMS TO BE PACKED	PACKING PROCEDURE	REMARKS	AREA CALCULATION FOR PAYMENT
1	A1 A2 A3	CUBICALS	AS PER CLAUSE 6.0 OF PLANT STANDARD ED 049 00 92 REV NO 11	WOODEN PALLET AVAILABLE WITH THE ITEM TO BE PACKED	Cubicle OD (Outer Dimension) after packing =LXWXH (Mtr) BHEL Supplied Pallet height Sample : Height 150 mm for cubicle, 175mm for Converter cubicle. Etc Area Calculation for Billing = $(L*(H-0.150)) *2+ (W*(H-0.150)) *2) +L*W$ Cost includes Battens (additional reapers, supporting, reinforcing) , packing accessories (cover, silica gel, labels etc)and packing services.
2	B1	TRACTION EQUIPMENT CUBICALS OR HEAVIER SIZE PANEL	AS PER PLANT STANDARD ED 049 00 92 REV NO 11	WOODEN PALLET AVAILABLE WITH THE ITEM TO BE PACKED	Cubicle OD (Outer Dimension) after packing =LXWXH (Mtr) BHEL Supplied Pallet Average Height 175mm Area Calculation for Billing = $(L*(H-0.175)) *2+ (W*(H-0.175)) *2) +L*W$ Cost includes Battens (additional reapers, supporting, reinforcing) , packing accessories (cover, silica gel, labels etc)and packing services.
3	C1 C2 C3	LOOSE ITEMS (SPARES & MAIN EQUIPMENT)	AS PER PLANT STANDARD ED 049 00 92 REV NO 11	BOTTOM OF CASING / BOX TO BE MADE WITH PLYWOOD AND SUPPORT BATTEN	Boxes OD (Outer Dimension) after packing= LXWXH (Mtr) Area Calculation for Billing = $(L*H*2) + (W*H*2) +(L*W*2)$ Cost includes Battens (additional reapers, supporting, reinforcing) , packing accessories (cover, silica gel, labels etc)and packing services.
4	D1	LOOSE ITEM SUITABLE FOR SPEEDPOST	AS PER DRAWING NO: 805 RPP BOX 001	BOTTOM OF CASING / BOX TO BE MADE WITH PLYWOOD	Boxes OD (Outer Dimension) after packing= LXWXH(Mtr) Area Calculation for Billing = $(L*H*2) + (W*H*2) +(L*W*2)$

9	E1	PACKED CASINGS- GI SHEET	AS PER PLANT STANDARD ED 049 00 92 REV NO 11	WOODEN PALLET AVAILABLE WITH THE ITEM TO BE PACKED Overlapping to be taken care	Boxes OD (Outer Dimension) after packing= LXWXH (Mtr) Area Calculation for Billing = ((L*H*2) + (W*H*2) +(L*W*1)) without pallet Covering Area Calculation for Billing = ((L*H*2) + (W*H*2) +(L*W*2)) with pallet covering Overlapping to be taken care, No additional charges of over lapping. Over lapping cost to be included in the cost
11	F1	PACKING CHARGES	AS PER PLANT STANDARD ED 049 00 92 REV NO 11	WOODEN PALLET AVAILABLE WITH THE ITEM TO BE PACKED	Boxes OD (Outer Dimension) after packing= LXWXH (Mtr) Area Calculation for Billing = (L*H*2) + (W*H*2) +(L*W*2)
12	F.2	Labour charges for Packing Carton Box Railway Module	AS PER PLANT STANDARD ED 049 00 92 REV NO 11	Carton Box With Filling material Supplied by BHEL	Payment based on Numbers of cartoon packed
13	G	Supply of packing materials & packing of HVDC thyristor Modules	AS PER PLANT STANDARD ED 049 00 92 REV NO 11 & Doc. No. GI2191SH16600102	Plywood boxes and packing material	Payment based on Numbers of Boxes
14	H	Supply And packing in Corrugated carton box	AS PER PLANT STANDARD ED 049 00 92 REV NO 11	Corrugated carton boxes and packing material	Payment based on Numbers of Boxes
14	H	Supply and packing of collapsible Box.	AS PER PLANT STANDARD ED 049 00 92 REV NO 11	Plywood boxes and packing material	Payment based on Numbers of Boxes

: Reference documents for Packing:

- 1) PLANT STANDARD ED 049 00 92 REV NO 11 (Applicable for packing of item with **plywood and wood**)
- 2) DRAWING NO:805 RPP BOX 001 (Applicable for packing of loose item **suitable for Speed post**)
- 3) DRAWING NO:36880410022 (Applicable for packing of loose items of **SPARES & MAIN EQUIPMENT**)
- 4) HVDC Module packing (Doc. No. **GI2191SH16600102**)
- 5) Corrugated Carton Box (Packing Box shipping _Misc.)
- 6) SAMPLE SIZES AS PER ANNEXURE

6. Time Schedule for completion of Packing works:

SL NO	DESCRIPTION OF PACKING MATERIAL	COMPLETION PERIOD
1	Supply of packing Material and Packing of consignment using Plywood of surface area up to 30 Square meter as per scope of work SCHEDULE : C , D	Within 4 days of intimation through e-mail / over phone .
2	Supply of packing Material and Packing of consignment using Plywood of surface area more than 30 Square meter as per scope of work. SCHEDULE: C,D,	Within 7 days of intimation through e-mail / over phone .
3	Supply of packing Material and Packing of Cubicles / Traction equipment / Heavy Panels using Plywood / wood as per scope of work. SCHEDULE: A,B,G	Within 10 days of intimation through e-mail / over phone .
4	Packing of Packed cases with GI sheet as per scope of work. SCHEDULE:I	Within 7 days of intimation through e-mail / over phone .
5.	Packing services Schedule : F	Within 2 days of intimation through e-mail / over phone .

Stock of Packing Materials of standard sizes to be supplied and kept at our works by the Contractor

at any point of time to ensure smooth packing service and for all other then standard size measurement to be taken by vendor as prior informed by Contract Executing department

Delay in packing beyond the above mentioned schedule will lead to penalty as per clause –6.2.B.

6.1. PRICE VARIATION CLAUSE:

PVC not applicable. The rates shall remain firm during entire contract period.

6.2 LIQUIDATED DAMAGES (LD)/PENALTY:

A. LIQUIDATED DAMAGES (LD):

If the contractor fails to start the work within the initial mobilization period (7 days) fixed in the tender as indicated in Work Order or at any time repudiates the contract then BHEL, without prejudice to any other right or remedy available to it under the contract, may at its discretion shall have right to

a. Recover from the contractor, liquidated damages and not by way of penalty, a sum of 0.5% (Half percentage) of total value of the contract (excluding taxes) per day of delay in mobilization beyond initial mobilization period of 7 days, subject to a maximum of 15 days. In such a case, BHEL may also terminate the contract and forfeit security deposit if delay extends beyond 15 days.

b. Recover from the contractor, liquidated damages and not by way of penalty an amount of ₹1000/- per day in the event of any delay in making the payment of any wages or dues to the all contractual workers by the tenderer i.e. after 07th of subsequent month.

Example: salary paid on 10th , 3 day penalty Rs.3000 will be deducted.

B. PENALTY:

Penalty @ 1% of (amount payable towards packing and supply of material associated with packing) per day of delay beyond the time schedule specified in scope of work.

3. MAXIMUM VALUE OF LD/ PENALTY:

- a) The total recoveries under aforesaid clauses shall be limited to maximum 10% of the contract value.
- b) In case of any change of order value, LD / PENALTY shall be subject to a maximum of 10% of the revised order value.
- C) The decision of BHEL on the question whether the contractor(s) have committed such default or have failed to perform any such service efficiently and are liable to pay compensation and as to quantum of such compensation shall be final and binding on the contractor(s).

7.0 **GENERAL TERMS AND CONDITIONS.**

1. The Contractor shall take, at his own cost, the necessary License in respect of his Trade/Business, in respect of this work. The expenses in completing the formalities in executing the agreement including expenses on Stamp Paper, will also be met by the Contractor.
2. Except where otherwise provided for in the contract all questions and disputes relating to the meaning of the Specifications, Designs, Drawings and Instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in anyway arising out of or relating to the Contract, Designs, Drawings, Specifications, estimates, Instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the Arbitrator who would be appointed by BHEL from the panel of arbitrators of Bharat Heavy Electricals Limited, for more detail refer clause no.8.0 (Arbitration & Conciliation).
3. The BHEL General conditions of Contract shall also apply to this work, except to the extent modified in these conditions. The Contractor shall scrutinize the GCC available in BHEL-EDN and acquaints himself with the provisions thereof, to his satisfaction.
4. Cleanliness has to be maintained by the Contractor's workmen in the Packing/Dispatch Area. Scrap materials to be removed and deposited in specific location and Shop floor of Shipping Section to be kept clean at the end of each day. Cut Pieces / Scrap belonging to Contractors materials to be removed and taken back with necessary paper works after duly certified by concerned executive.
5. The Management of BHEL shall have the right to with-hold Payment of, or make recoveries from claims due to them in respect of any loss or damage caused or occasioned in respect of the properties of BHEL under the Terms and Conditions of this arrangement or any payments necessitated due to infringement of any statutory obligations, by the Contractor.
6. The Contractor shall not transfer or sublet the work to anyone without the prior written approval of BHEL. The Contractor shall, either by himself or through a competent Agent approved by BHEL Authorities, perform the said work.
7. Whenever under the Contract any sum of Money shall be recoverable from, or payable by the Contractor, the Contractor on demand shall pay the same. Such amount may also be deducted from any sum then due, or from any sum which at any time thereafter become due, to the Contractor under this Security Deposit, in respect of this work or in respect of any other work.
8. All the employees of the Contractor engaged for the work shall be paid by him their normal wages, for the National Holidays and Public Holidays declared by BHEL for that Calendar year.

9. Without prejudice to any rights or remedies under this Agreement if the Contractor dies/becomes insolvent/bankrupt/wound-up, the BHEL authorities shall have the right to terminate this agreement without any liability whatsoever as regards enlistment of the work for the balance Contract period after the death/ insolvency/bankruptcy/winding up of the Contractor.
10. **Penalty:** In the event of the Contractor committing a default or breach of any of the provisions of the contractor's Labour Regulations, as amended from time to time or furnishing any information or submitting or filling any Form / Register / Slip under the Provisions of these regulations which is materially incorrect, then, on the report of the Inspecting officers as defined in the Contractors Labour Regulations, the Contractors shall, without prejudice to any other liability, pay to BHEL, a sum not exceeding 10% of contract value as liquidated damages for every default, or furnishing, making, submitting, filling materially incorrect statement as may be fixed by BHEL. Such amount will be deducted from the running Bills/Security Deposit of the Contractor and the amount would be credited to the Welfare Fund constituted under Regulations.
11. Bonus to contractor is not applicable.
12. PVC/ORC not applicable.
13. **Model Rules for Labour Welfare:-**
The Contractor, at his own expense comply with or cause to be complied with rules framed by Government from time to time for the protection of Health of the Labourers. In case, the contractor fails to make arrangements as aforesaid BHEL will be entitled to do so and recover the cost thereof from the Contractor.
14. The Contractor should take full care regarding safety aspects. In case of any Accidents / Injuries to the Contractor's Labourers within the premises of the Company (BHEL), the Contractor is solely responsible and no claims whatsoever on the Company (BHEL) is permissible.
15. Successful tenderer should provide the following safety Personal Protective items to his labourers during working period and shall ensure safe working habits and safe working conditions. All these expenditures have to be borne by the tenderer only. **BHEL will not reimburse the same.**

Sl. Personal Protective. Eqpt. - qty: No./ Items

1. Safety spectacle - 1 no
 2. Ear Muff - 1 no
 3. Ear Plug - 1 set
 4. Dust Mist respirator - 1 no
 5. Hand gloves - 1 pair for every 3Months
 6. Safety shoe - 1 no
16. The Contractor shall be equipped to pack at least 4 Cubic Metres of Wood content or equivalent to 40 Cubicles of Control Equipment Products per day as per contract percentage awarded.
 17. The Company does not give any Guarantee on minimum work load during the Day / Month / Year. The workload varies within the Month and within the year.
 18. In case of emergency, if the contractor fails to do the packing work within the stipulated time, the same will be got done elsewhere / through others. Penalty may be levied on the Contractor as applicable.

19. In case it is found that the species of Wood/ASCU treatment do not conform to the Specification, Penalty not exceeding 10% of the value of the packing cost of that packing work will be levied and deducted from the monthly bill.

In addition, the Company (BHEL) will have the option to terminate the Contract.

20. The Contractor and his workmen shall abide by the Rules relating to maintenance of discipline and Security checks of the Company.
21. All Tools, Equipment's, required for Packing shall be supplied by the Contractor which will be returned after closure of the contract duration.
22. All Tools, Equipment and Materials brought by the contractor shall be shown to the security at gate and to be entered in the Register kept in the Security Department and DCs are to be preserved by the contractor to take back the items at a later date.

23. The Tenderers should have categorically confirmed acceptance of all the Tender terms and condition including the payment terms. In case of non-compliance / non- conformity, the offer is liable for rejection.

24. Tender Committee decision is final for evaluation and acceptance of techno-commercial Bid, taking into account information furnished by the tenderer, visit to the tenderers works, documents verification etc.
25. Tenderer should have facility, infrastructure and man power to execute the order for which they have opted for quoting.
26. The tenderer should not have blacklisted by any Public Sector Undertaking / Public Departments.
27. Tenderer should have facility, infrastructure and man power to execute the order.

Subject: Re: Project wise details required for Packing contract from Sept'2026 to Aug'27

From: N Yaswanth <yaswanth@bhel.in>

Date: 20-04-2026, 09:15

To: Kiran Kumar <kiran.kumar@bhel.in>

CC: MAHESH-EDN <maheshmk@bhel.in>, RAMAN KUMAR-EDN <raman.kumar@bhel.in>, 'N D A KRISHNA KOPPISETTY' <anilkrishna@bhel.in>, 'M Yuvaraj, Manager/PES_COMM/EDN' <yuvarajm@bhel.in>, sudhirmm@bhel.in, 'Anantha Krishnan T S' <ananthakrishnants@bhel.in>, subramanian.n@bhel.in, "'D Kanimozhi(Addl GM/CE-MM/SA/MM/PUR/EDN)'" <kanimozhid@bhel.in>, "'Rajendra M Pandhare(Addl GM/P&D/EDN)'" <PANDHARE@BHEL.IN>, umapathi@bhel.in, 'srinivasamurthytn' <srinivasamurthytn@bhel.in>, Deepa Prabhakar <deepa1@bhel.in>, 'AT Seralathan' <seralathan@bhel.in>, 'R Anbalagan(General Manager/ESD/CE/SYS.TSTG/EDN)' <anbalagan@bhel.in>, 'R Shekar(Addl GM/PES_COMM/EDN)' <shekar.r@bhel.in>, prasadjvvs <prasadjvvs@bhel.in>

Sir

Already C&I shared the file.

Please consider the following for Traction

Propulsion 213 sets (213×12)

However consider 300 sets for safer side as some anticipated orders are expected to deliver before Aug'27

Vande Bharat 6 rakes (equivalent physicals 6×122)

Memu RCF 22 sets (planned in Apr'27 to Sep'27)

On 20 Apr 2026 09:01, Kiran Kumar <kiran.kumar@bhel.in> wrote:

Dear Sir/Madam,

Kindly furnish the details today to enable us to start working on PACKING CONTRACT.



On 15-04-2026 09:12, Kiran Kumar wrote:

Dear Sir/Madam,

Kindly furnish the details today to enable us to start working on PACKING CONTRACT.



On 13-04-2026 08:41, Kiran Kumar wrote:

Dear Sir,

Please note that present packing contract-period is getting over by **31.08.2026** and as per CCD instructions indent

Kindly request you to furnish us the product & Project wise physical quantity (like no.of cubicles / no.of propulsior

If any new product is planned in this period kindly furnish the drawing and packing proc

Details to be furnished by 13.04.2026 to enable us to finalize packing material quantity to take



Subject: RE: Project wise details required for Packing contract from Sept'2026 to Aug'27

From: "Sudhir M M, CE-PMC, BHEL EDN" <sudhirmm@bhel.in>

Date: 13-04-2026, 14:43

To: "'Kiran Kumar'" <kiran.kumar@bhel.in>

CC: "'N Yaswanth\(\Sr Manager/P&D/EDN\)'<yaswanth@bhel.in>, 'T N Srinivasamurthy\(\Addl GM/CE/SHIPPING/EDN\)'<srinivasamurthytn@bhel.in>, <UMAPATHI@BHEL.IN>, 'Rajendra M Pandhare, Addl GM/P&D/EDN'" <pandhare@bhel.in>

Dear Kiran,

PRC file of C&I as on 12/04/26 is attached for planning.

Regards,

M. M. Sudhir
DGM, CE-PMC,
BHEL EDN, Bangalore
PH: 080-26998002

From: Kiran Kumar [mailto:kiran.kumar@bhel.in]

Sent: Monday, April 13, 2026 8:41 AM

To: yaswanth <yaswanth@bhel.in>; sudhirmm@bhel.in; M Yuvaraj, Manager/PES_COMM/EDN <yuvarajm@bhel.in>; subramanian.n@bhel.in; RAMAN KUMAR-EDN <raman.kumar@bhel.in>; 'N D A KRISHNA KOPPISETTY' <anilkrishna@bhel.in>

Cc: MAHESH-EDN <maheshmk@bhel.in>; 'Anantha Krishnan T S' <ananthakrishnants@bhel.in>; 'D Kanimozhi(Addl GM/CE-MM/SA/MM/PUR/EDN)' <kanimozhid@bhel.in>; 'Rajendra M Pandhare(Addl GM/P&D/EDN)' <PANDHARE@BHEL.IN>; umapathi@bhel.in; 'srinivasamurthytn' <srinivasamurthytn@bhel.in>; Deepa Prabhakar <deepa1@bhel.in>; 'AT Seralathan' <seralathan@bhel.in>; R Anbalagan(General Manager/ESD /CE/SYS.TSTG/EDN) <anbalagan@bhel.in>; R Shekar(Addl GM/PES_COMM/EDN) <shekar.r@bhel.in>; prasadjvvs <prasadjvvs@bhel.in>

Subject: Project wise details required for Packing contract from Sept'2026 to Aug'27

Dear Sir,

Please note that present packing contract-period is getting over by **31.08.2026** and as per CCD instructions indent approval to be furnished Three months before e. Kindly request you to furnish us the product & Project wise physical quantity (like no.of cubicles / no.of propulsion systems etc) details of EDN/ESD products from

If any new product is planned in this period kindly furnish the drawing and packing procedure with quantity det

Details to be furnished by 13.04.2026 to enable us to finalize packing material quantity to take budgetary quotation from

ಕಿರಣ್ ಕುಮಾರ್, ಹಿರಿಯ ವ್ಯವಸ್ಥಾಪಕರು / ಶಿಪ್ಪಿಂಗ್

किरण कुमार, वरिष्ठ प्रबंधक / संभार

KIRAN KUMAR, Sr. Manager / SHIPPING

BHEL-EDN, Mysore Road, Bengaluru - 560026

ಆಂತರಿಕ ಸಂಖ್ಯೆ / आंतरिक संख्या / Internal No. : 8269

ಮೊಬೈಲ್ ಸಂಖ್ಯೆ / मोबाइल नंबर / Mobile No. : 8105944688

ಇಮೇಲ್ ಐಡಿ / ईमेल आईडी / eMail ID : kiran.kumar@bhel.in



— Attachments: —

PRC file as on 12_04_26.xlsx

338 KB

S.N.	WBS	PROJ UNIT NO.	Product	No. of Panels (Phy) - Engg
116	CE/1856-SH3-48-01	MEIL RATLE HEP 850 MW #3	SEE	5
117	CE/1856-SH4-48-01	MEIL RATLE HEP 850 MW #4	SEE	5
264	CE/2015-SH2-58-01	NTPC LARA STG-II #2	BOP	76
390	CE/2015-SH2-58-02	NTPC LARA STG-II #2	ECP	2
1107	CE/2085-SH3-48-01	APL Raigarh Ph-II 2x800 MW #1	DAVR	4
444	CE/1856-SH3-52-01	MEIL RATLE HEP 850 MW #3	HC	3
445	CE/1856-SH4-52-01	MEIL RATLE HEP 850 MW #4	HC	3
502	CE/1895-SH2-48-01	TALCHER #2	DAVR	4
1066	CE/2042-SH3-48-01	OSPPL Kharagpur 1 x 90 MW STG U#3	AVR	2
481	CE/1016-SH1-48-01	RAGHUNATHPUR #1	DAVR	4
3121	CE/2225-SHC-52-01	KADANA Common	HC	5
3122	CE/2225-SHC-56-01	KADANA Common	HMI	1
192	CE/1202-SHC-56-01	VISHNUGADH PIPALKOTI COMMON	HMI COMMON	3
495	CE/2015-SH2-48-01	NTPC LARA STG-II #2	DAVR	4
193	CE/1202-SHC-62-01	VISHNUGADH PIPALKOTI C	SCADA- AUTO. ENERGY METERING AND BILLING	1
656	CE/1126-SH2-52-04	SHAHPURKANDI PH I #2	GUAGE PANEL	1
658	CE/1126-SH2-52-03	SHAHPURKANDI PH I #2	INSTRUMENT PANEL	1
663	CE/1126-SH2-52-02	SHAHPURKANDI PH I #2	TEMPERATURE MEASUREMENT PANEL	1
664	CE/1126-SH2-52-01	SHAHPURKANDI PH I #2	UNIT CONTROL BOARD	5
679	CE/1126-SH7-52-04	SHAHPURKANDI PH II #2	GUAGE PANEL	1
680	CE/1126-SH7-52-03	SHAHPURKANDI PH II #2	INSTRUMENT PANEL	1
542	CE/1126-SH2-48-01	SHAHPURKANDI PH I #2	SEE	5
681	CE/1126-SH7-52-02	SHAHPURKANDI PH II #2	TEMPERATURE MEASUREMENT PANEL	1

682	CE/1126-SH7-52-01	SHAHPURKANDI PH II #2	UNIT CONTROL BOARD	5
700	CE/1126-SHC-56-01	SHAHPURKANDI COMMON	HMI ACCESSORIES	1
515	CE/2006-SH3-52-03	CHILLA HEP #3	INSTRUMENT PANEL	1
701	CE/1126-SHC-56-02	SHAHPURKANDI COMMON	HMI POWERHOUSE II	1
692	CE/1126-SH7-48-01	SHAHPURKANDI PH II #2	SEE	5
702	CE/1126-SHC-52-01	SHAHPURKANDI COMMON	LCB FOR COMMON	5
703	CE/1126-SHC-52-02	SHAHPURKANDI COMMON	LCB FOR SWITCHYARD	4
705	CE/1126-SHC-52-03	SHAHPURKANDI COMMON	RTU PANEL	2
740	CE/1126-SHC-52-06	SHAHPURKANDI COMMON	LCB FOR COMMON	5
741	CE/1126-SHC-52-07	SHAHPURKANDI COMMON	LCB FOR SWITCHYARD	4
742	CE/1126-SHC-52-08	SHAHPURKANDI COMMON	RTU PANEL	2
243	CE/2007-SH7-52-01	POLAVARAM #7	Autosequencer Panel	5
528	CE/1016-SH1-56-01	RAGHUNATHPUR #1	HMI	4
244	CE/2007-SH8-52-01	POLAVARAM #8	Autosequencer Panel	5
799	CE/2007-SH7-48-01	POLAVARAM #7	SEE	5
476	CE/2007-SH7-52-04	POLAVARAM #7	Gauge Panel	3
477	CE/2007-SH8-52-04	POLAVARAM #8	Gauge Panel	3
486	CE/2007-SH9-52-01	POLAVARAM #9	Autosequencer Panel	5
487	CE/2007-SH9-52-02	POLAVARAM #9	Temperature Measurement Panel	1
488	CE/2007-SH9-52-03	POLAVARAM #9	Instrument Panel	1
489	CE/2007-SH9-52-04	POLAVARAM #9	Gauge Panel	3
661	CE/2007-SH7-52-03	POLAVARAM #7	Instrument Panel	1
662	CE/2007-SH8-52-03	POLAVARAM #8	Instrument Panel	1
539	CE/2015-SH2-56-01	NTPC LARA STG-II #2	HMI	4
862	CE/2007-SH7-52-02	POLAVARAM #7	Temperature Measurement Panel	1
800	CE/2007-SH8-48-01	POLAVARAM #8	SEE	5
863	CE/2007-SH8-52-02	POLAVARAM #8	Temperature Measurement Panel	1
485	CE/2007-SH9-48-01	POLAVARAM #9	SEE	5
686	CE/1126-SH8-52-04	SHAHPURKANDI PH II #3	GUAGE PANEL	1
688	CE/1126-SH8-52-03	SHAHPURKANDI PH II #3	INSTRUMENT PANEL	1
1120	CE/2015-SH1-48-01	NTPC LARA STG-II #1	DAVR	4

689	CE/1126-SH8-52-02	SHAHPURKANDI PH II #3	TEMPERATURE MEASUREMENT PANEL	1
691	CE/1126-SH8-52-01	SHAHPURKANDI PH II #3	UNIT CONTROL BOARD	5
919	CE/2080-SH1-48-01	NTPC SINGRAULI SUPER TPP ST-III #1	DAVR	4
889	CE/2006-SH2-52-03	CHILLA HEP #2	INSTRUMENT PANEL	1
914	CE/2006-SH2-52-04	CHILLA HEP #2	GUAGE PANEL	1
966	CE/2006-SH2-48-01	CHILLA HEP #2	SEE	5
685	CE/1126-SH3-48-01	SHAHPURKANDI PH I #3	SEE	5
1048	CE/2006-SH2-52-02	CHILLA HEP #2	TEMPERATURE MEASUREMENT PANEL	1
1059	CE/2006-SH2-52-01	CHILLA HEP #2	UNIT CONTROL BOARD	5
666	CE/1126-SH3-52-04	SHAHPURKANDI PH I #3	GUAGE PANEL	1
667	CE/1126-SH3-52-03	SHAHPURKANDI PH I #3	INSTRUMENT PANEL	1
699	CE/1126-SH8-48-01	SHAHPURKANDI PH II #3	SEE	5
668	CE/1126-SH3-52-02	SHAHPURKANDI PH I #3	TEMPERATURE MEASUREMENT PANEL	1
670	CE/1126-SH3-52-01	SHAHPURKANDI PH I #3	UNIT CONTROL BOARD	5
448	CE/2007-S10-52-01	POLAVARAM #10	Autosequencer Panel	5
449	CE/2007-S10-52-02	POLAVARAM #10	Temperature Measurement Panel	1
447	CE/2007-S10-48-01	POLAVARAM #10	SEE	5
450	CE/2007-S10-52-03	POLAVARAM #10	Instrument Panel	1
451	CE/2007-S10-52-04	POLAVARAM #10	Gauge Panel	3
453	CE/2007-S11-52-01	POLAVARAM #11	Autosequencer Panel	5
454	CE/2007-S11-52-02	POLAVARAM #11	Temperature Measurement Panel	1
455	CE/2007-S11-52-03	POLAVARAM #11	Instrument Panel	1
456	CE/2007-S11-52-04	POLAVARAM #11	Gauge Panel	3
458	CE/2007-S12-52-01	POLAVARAM #12	Autosequencer Panel	5
459	CE/2007-S12-52-02	POLAVARAM #12	Temperature Measurement Panel	1
460	CE/2007-S12-52-03	POLAVARAM #12	Instrument Panel	1
461	CE/2007-S12-52-04	POLAVARAM #12	Gauge Panel	3
694	CE/1126-SH9-52-04	SHAHPURKANDI PH II #4	GUAGE PANEL	1
695	CE/1126-SH9-52-03	SHAHPURKANDI PH II #4	INSTRUMENT PANEL	1
452	CE/2007-S11-48-01	POLAVARAM #11	SEE	5
697	CE/1126-SH9-52-02	SHAHPURKANDI PH II #4	TEMPERATURE MEASUREMENT PANEL	1

657	CE/2006-SH3-52-04	CHILLA HEP #3	GUAGE PANEL	1
698	CE/1126-SH9-52-01	SHAHPURKANDI PH II #4	UNIT CONTROL BOARD	5
1082	CE/1856-SH1-52-01	MEIL RATLE HEP 850 MW #1	HC	3
1088	CE/1856-SHC-52-01	MEIL RATLE HEP 850 MW COMMON	HC	2
457	CE/2007-S12-48-01	POLAVARAM #12	SEE	5
1089	CE/1856-SHC-56-01	MEIL RATLE HEP 850 MW COMMON	HMI	1
973	CE/2110-SH1-48-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	DAVR	4
443	CE/1856-SH2-52-01	MEIL RATLE HEP 850 MW #2	HC	3
1108	CE/1708-SHC-56-01	KALESHWARAM VELAGATUR L2P1 -C	HMI	2
979	CE/2110-SH2-48-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	DAVR	4
1109	CE/1708-SHC-52-01	KALESHWARAM VELAGATUR L2P1 -C	LCB FOR COMMON AUXILIARIES	4
1112	CE/1856-SH1-48-01	MEIL RATLE HEP 850 MW #1	SEE	5
1110	CE/1708-SHC-52-02	KALESHWARAM VELAGATUR L2P1 -C	LCB FOR SWITCHYARD	4
1114	CE/1703-SHC-52-01	KALESHWARAM NAMAPUR L2P2 -C	LCB FOR COMMON AUXILIARIES	4
115	CE/1856-SH2-48-01	MEIL RATLE HEP 850 MW #2	SEE	5
1115	CE/1703-SHC-52-02	KALESHWARAM NAMAPUR L2P2 -C	LCB FOR SWITCHYARD	4
1091	CE/1709-SHC-56-01	KALESHWARAM ELLAIAHPALLY L4P2 -C	HMI	2
1092	CE/1709-SHC-52-01	KALESHWARAM ELLAIAHPALLY L4P2 -C	LCB FOR COMMON AUXILIARIES	5
746	CE/1126-SH9-48-01	SHAHPURKANDI PH II #4	SEE	5
1104	CE/1709-SHC-52-02	KALESHWARAM ELLAIAHPALLY L4P2 -C	LCB FOR SWITCHYARD	3
745	CE/2006-SH3-48-01	CHILLA HEP #3	SEE	5
757	CE/1016-SH1-53-01	RAGHUNATHPUR #1	SG	2
770	CE/2015-SH2-50-01	NTPC LARA STG-II #2	SG	52
830	CE/2118-SH3-48-01	DVC Koderma 2 x 800 MW #3	DAVR	4
831	CE/2118-SH3-50-01	DVC Koderma 2 x 800 MW #3	SG	52

835	CE/2118-SH3-57-01	DVC Koderma 2 x 800 MW #3	TG	42
836	CE/2118-SH3-58-01	DVC Koderma 2 x 800 MW #3	BoP	90
856	CE/2006-SH3-52-02	CHILLA HEP #3	TEMPERATURE MEASUREMENT PANEL	1
874	CE/1016-SH1-57-01	RAGHUNATHPUR #1	TG	29
880	CE/2015-SH2-57-01	NTPC LARA STG-II #2	TG	39
938	CE/2006-SH3-52-01	CHILLA HEP #3	UNIT CONTROL BOARD	5
1035	CE/2143-SH1-50-01	SIPAT 1X800MW STAGE III	SG	52
1036	CE/2143-SH1-57-01	SIPAT 1X800MW STAGE III	TG	42
1037	CE/2143-SH1-58-01	SIPAT 1X800MW STAGE III	BOP	60
1039	CE/2143-SH1-48-01	SIPAT 1X800MW STAGE III	DAVR	4
1050	CE/2085-SHC-58-01	APL Raigarh Ph-II 2x800 MW Common	BOP	6
3106	CE/2085-SHC-50-01	APL Raigarh Ph-II 2x800 MW #2	SG	1
1124	CE/2042-SH3-57-01	OSPPL Kharagpur 1 x 90 MW STG U#3	TG	4
498	CE/1895-SH2-50-01	TALCHER #2	SG	54
501	CE/1895-SH2-56-01	TALCHER #2	HMI	3
499	CE/1895-SH2-57-01	TALCHER #2	TG	42
3429	CE/1895-SH2-58-03	TALCHER #2	BOP Electrical	16
779	CE/1895-SH2-50-02	TALCHER #2	FGD	10
3283	CE/2284-SH1-48-01	HINDALCO Lapanga 1 x 150 MW BTG	DAVR	4
537	CE/1895-SH2-58-02	TALCHER #2	ELECTRICAL CONTROL PANEL	2
1374	CE/1895-SHC-58-12	TALCHER Common	Portable trolley	1
1151	CE/1521-SH1-50-01	BARH ST I FGD #1	FGD	11
1152	CE/1521-SH2-50-01	BARH ST I FGD #2	FGD	11
1153	CE/1521-SH3-50-01	BARH ST I FGD #3	FGD	11
1154	CE/1521-SHC-50-01	BARH ST I FGD -C	FGD COMMON	26
1155	CE/1521-SHC-56-01	BARH ST I FGD -C	FGD HMI COMMON	1
1158	CE/1521-SH1-50-02	BARH ST I FGD #1	VMS	2
1159	CE/1521-SH2-50-02	BARH ST I FGD #2	VMS	2
1160	CE/1521-SH3-50-03	BARH ST I FGD #3	VMS	2
3239	CE/1521-SHC-50-05	BARH ST I FGD -C	VMS FGD	2
1143	CE/2085-SH3-56-01	APL Raigarh Ph-II 2x800 MW #3	HMI	2
1145	CE/2085-SH3-50-01	APL Raigarh Ph-II 2x800 MW #3	SG	31

1142	CE/2085-SH3-58-01	APL Raigarh Ph-II 2x800 MW #3	BOP	59
3276	CE/2085-SH3-58-07	APL Raigarh Ph-II 2x800 MW #3	Interposing Relay Panel	1
1146	CE/2085-SH3-57-01	APL Raigarh Ph-II 2x800 MW #3	TG	30
1144	CE/2085-SH3-58-05	APL Raigarh Ph-II 2x800 MW #3	VMS	3
1136	CE/2085-SH3-58-02	APL Raigarh Ph-II 2x800 MW #3	ELECTRICAL PKG	9
1137	CE/2085-SH3-58-03	APL Raigarh Ph-II 2x800 MW #3	CPU PKG	3
1138	CE/2085-SH3-58-04	APL Raigarh Ph-II 2x800 MW #3	CW/ACW/IDCT	2
1139	CE/2085-SH3-58-06	APL Raigarh Ph-II 2x800 MW #3	Gen Syn Panel	1
3287	CE/2284-SH1-58-01	HINDALCO Lapanga 1 x 150 MW BTG	BOP	22
3284	CE/2284-SH1-50-01	HINDALCO Lapanga 1 x 150 MW BTG	SG	20
3286	CE/2284-SH1-57-01	HINDALCO Lapanga 1 x 150 MW BTG	TG	22
3288	CE/2284-SH1-58-02	HINDALCO Lapanga 1 x 150 MW BTG	ECP	2
3289	CE/2284-SH1-58-03	HINDALCO Lapanga 1 x 150 MW BTG	BOP OFFSITE	25
3290	CE/2284-SH1-58-04	HINDALCO Lapanga 1 x 150 MW BTG	BOP OFFSITE	5
3291	CE/2284-SH1-58-05	HINDALCO Lapanga 1 x 150 MW BTG	BOP OFFSITE	5
3292	CE/2284-SH1-58-06	HINDALCO Lapanga 1 x 150 MW BTG	BOP RIO	15
1163	CE/2015-SH1-58-01	NTPC LARA STG-II #1	BOP	76
1162	CE/2015-SH1-50-01	NTPC LARA STG-II #1	SG	52
1164	CE/2015-SH1-57-01	NTPC LARA STG-II #1	TG	39
155	CE/2015-SHC-58-03	NTPC LARA STG-II Common	AC & Vent (SAC DDCMIS)	57
341	CE/2015-SHC-58-11	NTPC LARA STG-II Common	CAS	5
376	CE/2015-SHC-58-02	NTPC LARA STG-II Common	CPU (SAC DDCMIS)	28
378	CE/2015-SHC-58-04	NTPC LARA STG-II Common	CW Treatment & ClO2 (WS DDCMIS)	11
420	CE/2015-SHC-58-06	NTPC LARA STG-II Common	ETP & CSSP-ETP (WS DDCMIS)	6
471	CE/2015-SHC-50-01	NTPC LARA STG-II Common	FOPH and AUX BOILER DDCMIS	6

687	CE/2015-SHC-58-12	NTPC LARA STG-II Common	MAKEUP WATER DDCMIS	5
690	CE/2015-SHC-58-01	NTPC LARA STG-II Common	OFFSITES	15
696	CE/2015-SHC-58-05	NTPC LARA STG-II Common	PT & DM Plant (WS DDCMIS)	43
706	CE/2015-SHC-58-07	NTPC LARA STG-II Common	RW System (WS DDCMIS)	4
949	CE/2015-SHC-58-10	NTPC LARA STG-II Common	VIBRATION MONITORING SYSTEM (VMS)	5
1161	CE/2015-SH1-56-01	NTPC LARA STG-II #1	HMI (STATION LAN)	4
1165	CE/2015-SH1-58-02	NTPC LARA STG-II #1	ECP	2
3549	CE/2015-SHC-62-01	NTPC LARA STG-II (2X800 MW)	SCADA for Switchgear	3
228	CE/2015-SHC-58-09	NTPC LARA STG-II Common	ASH HANDLING PLANT (AHP DDCMIS)	93
367	CE/2015-SHC-58-08	NTPC LARA STG-II Common	COAL HANDLING PLANT (CHP DDCMIS)	36
917	CE/2080-SH1-58-01	NTPC SINGRAULI SUPER TPP ST-III #1	BOP	60
918	CE/2080-SH1-56-01	NTPC SINGRAULI SUPER TPP ST-III #1	HMI	4
3515	CE/2080-SH1-58-02	NTPC SINGRAULI SUPER TPP ST-III #1	Electrical	16
789	CE/2080-SH1-50-01	NTPC SINGRAULI SUPER TPP ST-III #1	SG	52
916	CE/2080-SH1-57-01	NTPC SINGRAULI SUPER TPP ST-III #1	TG	42
926	CE/2080-SHC-62-01	NTPC SINGRAULI SUPER TPP ST-III COMMON	SCADA SWITCHGEAR	3
927	CE/2080-SHC-50-01	NTPC SINGRAULI SUPER TPP ST-III COMMON	FOPH AND AUX BOILER	6
930	CE/2080-SHC-58-01	NTPC SINGRAULI SUPER TPP ST-III COMMON	OFFSITE BOP	15
3517	CE/2080-SHC-58-02	NTPC SINGRAULI SUPER TPP ST-III COMMON	CPU (SAC DDCMIS)	28
3518	CE/2080-SHC-58-03	NTPC SINGRAULI SUPER TPP ST-III COMMON	AC & Vent (SAC DDCMIS)	58
3519	CE/2080-SHC-58-04	NTPC SINGRAULI SUPER TPP ST-III COMMON	CW Treatment & ClO2 (WS DDCMIS)	11

3520	CE/2080-SHC-58-05	NTPC SINGRAULI SUPER TPP ST-III COMMON	PT & DM Plant (WS DDCMIS)	43
3521	CE/2080-SHC-58-06	NTPC SINGRAULI SUPER TPP ST-III COMMON	ETP & CSSP-ETP (WS DDCMIS)	6
3522	CE/2080-SHC-58-07	NTPC SINGRAULI SUPER TPP ST-III COMMON	RW System (WS DDCMIS)	4
3525	CE/2080-SHC-58-10	NTPC SINGRAULI SUPER TPP ST-III COMMON	VMS	20
3526	CE/2080-SHC-58-13	NTPC SINGRAULI SUPER TPP ST-III COMMON	M/U WS	4
3524	CE/2080-SHC-58-09	NTPC SINGRAULI SUPER TPP ST-III COMMON	ASH HANDLING PLANT (AHP DDCMIS)	93
3523	CE/2080-SHC-58-08	NTPC SINGRAULI SUPER TPP ST-III COMMON	COAL HANDLING PLANT (CHP DDCMIS)	36
971	CE/2110-SH1-58-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	BOP	59
972	CE/2110-SH1-56-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	HMI	5
3313	CE/2110-SH1-58-02	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	Electrical Pkg	12
968	CE/2110-SH1-50-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	SG	31
970	CE/2110-SH1-57-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	TG	30
3314	CE/2110-SH1-58-03	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	CPU PKG	7
3315	CE/2110-SH1-58-04	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	CW/ACW/IDCT Pkg	10
3316	CE/2110-SH1-58-05	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	VMS	3

3317	CE/2110-SH1-58-06	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	Gen Syn Panel	1
3318	CE/2110-SH1-58-07	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #1	Interposing Relay Panel for Desk	1
981	CE/2110-SHC-58-01	ADANI POWER, MIRZAPUR (PH-I) COMMON	BOP	6
977	CE/2110-SH2-58-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	BOP	59
978	CE/2110-SH2-56-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	HMI	2
3319	CE/2110-SH2-58-02	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	Electrical Pkg	8
975	CE/2110-SH2-50-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	SG	31
976	CE/2110-SH2-57-01	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	TG	30
3320	CE/2110-SH2-58-03	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	CPU PKG	3
3321	CE/2110-SH2-58-04	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	CW/ACW/IDCT Pkg	2
3322	CE/2110-SH2-58-05	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	VMS	3
3323	CE/2110-SH2-58-06	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	Gen Syn Panel	1
3324	CE/2110-SH2-58-07	ADANI POWER, MIRZAPUR (PH-I) 2X800 MW #2	Interposing Relay Panel for Desk	1
1084	CE/1856-SH5-52-01	MEIL RATLE HEP 850 MW #5	HC	3
1116	CE/1856-SH5-48-01	MEIL RATLE HEP 850 MW #5	SEE	5
3107	CE/2150-SH1-66-01	HVDC BHADLA #1	HVDC	48
3539	CE/2191-SH2-66-03	HVDC KAVADA #2	HVDC	48
3540	CE/2191-SH2-66-04	HVDC KAVADA #2	HVDC	48
3541	CE/2191-SH2-66-05	HVDC KAVADA #2	HVDC	48

3542	CE/2191-SH2-66-06	HVDC KAVADA #2	HVDC	48
3111	CE/2191-SH1-66-01	HVDC KAVADA #1	HVDC	48
3112	CE/2191-SH1-66-02	HVDC KAVADA #1	HVDC	48
3113	CE/2191-SH1-66-03	HVDC KAVADA #1	HVDC	48
3114	CE/2191-SH1-66-04	HVDC KAVADA #1	HVDC	48
3535	CE/2191-SH1-66-05	HVDC KAVADA #1	HVDC	48
3536	CE/2191-SH1-66-06	HVDC KAVADA #1	HVDC	48
3537	CE/2191-SH2-66-01	HVDC KAVADA #2	HVDC	48
3538	CE/2191-SH2-66-02	HVDC KAVADA #2	HVDC	48

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REVISION HISTORY SHEET

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REV NO.	DATE	NATURE OF CHANGE	REASONS	CHANGED BY	APPROVED BY
00	11/05/1995		-	VS, SHG	N J
01	05/06/1995	ANNEXURE ADDED	ACCEPTANCE CRITERIA INCLUDED FEED BACK FROM QUALITY	SHG	NJ
02	06/03/1997	CL.6.4.1 ALTERED	FEEDBACK FROM SHIPPING	SHG	NS
03	20/12/1999	IS YEAR OF ISSUE REMOVED	-	CCR	NS
04	15/12/2009	INCLUSION OF MR GRADE PLYWOOD SHEET FOR PACKING (Commercial Grade)	FEEDBACK FROM SHIPPING & GENERAL REVIEW	PGD / KPN	MSR
05	21/03/2013	Inclusion of recommendation pertaining to spares in page 12 and 26	Recommendation from Corp System and IT	HRN	MS
06	11/01/2016	Cl 3.1.1.5, 3.8, 3.9, and 3.22 revised	Feedback from Shipping and General Review	HRN /EK Prakash	BKD
07	19/02/2016	Page 21 deleted. No. of sheets revised to 25	Feedback from Shipping	HRN/EK Prakash	BKD
08	06/06/2018	Clause 3.22 revised by changing unit mm to cm	Feedback from Shipping	BKD	Sathyanarayana
09	13/08/2018	Reference to Corp Std: AA0490009 included	Feedback from CQA	BKD	Sathyanarayana
10	12/10/2021	Clause No. 3.1.1.2, 3.1.1.4, Fig.8 & Fig 9 revised.	Feedback from Shipping	J Shukla	Bharat Arora
11	23/01/2025	Clause No. 3.1.1.3, 3.1.1.4, 3.22, 6.1.7, 6.1.10, 6.4.1	As per Plant standard committee discussion	Jothish S J Shukla	Mala Siboo Devanand V

REV NO 11

APPROVED: Mala Siboo/Devanand V

PREPARED:
Jothish S/J Shukla

ISSUED: DATE:
Engg Serv. 05/02/2025

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PROCEDURE FOR PACKING OF CONTROL EQUIPMENTS USING PLYWOOD.

1. **PURPOSE:** To describe the materials and procedure for Packing.
2. **SCOPE:** Applicable for packing of control cubicles, loose items, spares of Control Equipment and Transmission System Control products.

3. MATERIALS

3.1. WOOD

3.1.1 For Inland contracts:

3.1.1.1 Plywood of Boiling Water Resistance (BWR) grade and termite, fungus proof as per IS: 303 of 12 mm thick for control cubicles, single and multi cubicles, loose items and spares cases. The plywood shall be bonded with high Quality Phenol Formaldehyde Synthetic Resin and specially treated with preservatives to repel termites and wood destroying organisms. The plywood shall with stand the stress caused by cyclic changes in weather conditions. It shall be durable and resistant to heat, sun and moisture. The sheets such procured shall have IS mark IS 303 and BWR grade stamped on it.

3.1.1.2 Silver oak/Pine wood of cross section 45x45 mm as support battens with nut & bolt type to be used for Loose items, VCU's of Railways and single suit, two suit, three suit Cubicles and 54x75mm for longer sections to be used. These Silver oak wood battens shall be treated with ASCU solution as defined in 4.0. In the case of plywood, treatment with ASCU solution need not be done. Alternative to silver oak/pine wood battens, Plywood support battens of suitable cross section and combination of thickness can also be used as per clause 3.1.1.4.

3.1.1.2.a) Silver oak/Pine wood of cross section 18x75 mm as support battens with nailing to be used for Loose items, and single suit, two suit, three suit Cubicles and 18x100mm for longer sections to be used. These Silver oak wood battens shall be treated with ASCU solution as defined in 4.0. In the case of plywood, treatment with ASCU solution need not be done. Alternative to silver oak/pine wood battens, Plywood support battens of suitable cross section and combination of thickness can also be used as per clause 3.1.1.4.

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PREPARED:
Jothish S/J Shukla

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3.1.1.3

Plywood for general purposes i.e. moisture resistance or MR grade (Commercial ply wood) and termite, fungus proof as per IS: 303 of 12 mm thick for control cubicles, single and multi cubicles, loose items and spares cases. The plywood shall be bonded with high quality Phenol Formaldehyde Synthetic Resin and specially treated with preservatives to repel termites and wood destroying organisms. The plywood shall stand the stress caused by cyclic changes in weather conditions. It shall be durable and resistant to heat, sun and moisture. The sheets such procured shall have IS mark IS 303 and MR grade stamped on it. Support batten as indicated at 3.1.1.4 shall be used.

Sample drawings of panels & loose boxes are attached for ready reference.

[Fig : 10 to 13]

3.1.1.4 Support Battens:

Ply wood sheet of cross section 18 mm x 100 mm) for support batten for loose items, spares, and plywood sheet of cross section 18 mm thk x 100 to 150 mm width as support batten for all types of control cubicles. Support batten of plywood cross section 12 thk x 75 to 100 mm can also be used for small cases apart from 18 mm x 100 mm cross section. These plywood support battens can also be used in place of silver oak support battens as referred in clause 3.1.1.2. Additional support battens/ cross battens of suitable sizes are to be provided on need basis.

Sample drawings of panel's i.e. single suit, two suite and three suit cubicles are attached for ready reference [Fig: 10 to 13].

Special support battens for Traction converters and similar panels:

Silver oak/Pine Wood of Cross section 54 mm x 75mm x 1 no's (Alternatively, Plywood of cross section of to be used in place of Silver Oak/pine wood as mentioned)at both bottom end and top end of front and back shook's , and also at top portion of both corner shook's for fixing with bolt and nut/ clamps, and 54 mm x 75 mm x 1 nos cross section as support batten/ slanting reinforcement batten on all sides. On need basis 18mm x 75 mm x 3 no's of plywood cross section can also be used additionally depending upon the size and weight of the panel. Plywood shook's can be fixed with both Bolts or mechanical latching clamps or combination of both as the case may be.

OR

Plywood of Cross section 18 mm x 75mm x 3 no's (Alternatively, Plywood of cross section to be used in place of Silver Oak wood)at both bottom end and top end of front and back shook's , and also at top portion of both corner shook's for fixing with bolt and nut/ clamps, and 18 mm x 75 mm x 3 nos cross section as support batten/ slanting reinforcement batten on all sides. On need basis 18mm x 75 mm x 3 no's of plywood cross section can also be used additionally depending upon the size and weight of the panel. Plywood shook's can be fixed with both Bolts and mechanical latching clamps or combination of both as the case may be.

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Sample drawings of panels are attached for ready reference. [Fig :8 & 9]

- 3.1.1.5 Tolerance of ply wood thickness: Tolerance of plywood for inland packing shall be +/- 1 mm.

3.1.2 For Export Contracts

- 3.1.2.1 Plywood of Marine grade as per IS: 710 of 12 mm Thick for control cubicles, loose items and spare cases.
Support batten as per the clause 3.1.1.4

It shall be highly resistant to attacks from fungi, termites and wood destroying organisms including marine borers. The plywood shall withstand the stress caused by cyclic changes in weather conditions. It shall be durable and resistant to heat, sun and moisture. The sheet shall have IS: 710 and marine grade marking. **Treatment of wood as per ISPM-15.**

3.1.2.2 Same as clause 3.1.1.2

- 3.1.3 BHEL_EDN will be carrying out test on ISI marked ply Wood whenever required.

- 3.2 Fasteners: M8 x 130 mm and M8 x 150 long zinc plated Bolts and M8 zinc plated nuts for fixing, and spring Washers or suitable size can also be used.

- 3.3 Nails: Nails of dia 3.15 mm and about 40 mm for nailing of plywood and silver oak batten. Suitable smaller size is to be used for other nailing.

- 3.4 Polyethylene sheet: The polyethylene sheets are used to make covers for the jobs individually. The material shall have a minimum thickness of 0.175 mm (175 microns).

The polyethylene sheet shall be clear and transparent manufactured out of virgin material. Reprocessed material shall not be used.

- 3.5 Bituminised water proof kraft paper - used for lining the inside of shooques of cubicles.

- 3.6 Bitumen coated Hessian polyethylene kraft paper used for lining the inside of top cover for cubicles and all inner and top sides for small boxes.

- 3.7 Rubberized Coir's- used for cushioning and to fill the gap inside packing boxes. The coir shall be about 100 mm wide and 25mm thick.

- 3.8 Foam rubber/U Foam - This is used for covering the delicate items. This material shall be provided by the vendor.

- 3.9 Thermocole (Expanded polystyrene) sheets - This is used for covering delicate items. This material shall be provided by vendor.

- 3.10 Silica gel - shall be of indication type to conform to IS: 3401/AA55619 shall be blue in colour while usage.

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3.11 Cotton bag - These are used for holding silica gel. The bags shall have the following matter indicated on them:

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BHEL-EDN                                BANGALORE-560026
                                SILICA GEL
                                INDICATING TYPE
BLUE      : ACTIVE
ROSE      : REDUCED ACTIVITY
WHITE     : NO ACTIVITY. TO BE REPLACED WITH FRESH
                                SILICA GEL
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- 3.12** Cotton / Plastic tape-This is used for tying small items and also to prevent vibrations of moving parts within the cubicles.
- 3.13** Polyethylene bags - These are to be used for keeping the packing slips. The bag shall be of size 70 mm X 100 mm (minimum).
- 3.14** Hessian cloth, twine thread, paint will have to be used in packing certain items.
- 3.15** Marking plate - This shall be of anodized aluminium sheet. Details and specifications are given in Fig-3.
- 3.16** Marking ink - Ink used shall be normally black in colour. The ink shall be indelible, non fading and non washable in water.
- 3.17** Packing Slip Holder - This shall be of galvanised iron tinned sheet / aluminium sheet.
- 3.18** Mechanical Latching clamps : For CLW Railway panels and similar Panels self locking clamps can also be used on need basis in conjunction with or apart from regular bolt and nut fixing arrangement. Sample drawing attached [refer Fig.7]. For reusable boxes, these clamps provides easy locking and unlocking arrangement. These clamps will be made available from BHEL in some cases.
- 3.19** Flex/Vinyl digital print media for labeling:
Labels made out of Flex/Vinyl/ other digital media shall be used for export contracts & some prestigious domestic contracts on need basis apart from existing present marking/ labeling system.
- 3.20** Aluminium foil for packing:
On need basis, suitable size & thickness of aluminium foil shall be used for packing of electronic panels and loose items for both indigenous & export contracts.
- 3.21** Pallets :
All cubicles are mounted on the pallets by BHEL. For loose items, HMI items & small cabinets for which no pallets are available, suitable size pallets have to be arranged by the contractor.

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3.22 : STICKERS/LABELS :

Stickers/Labels: The following labels/ Ink Marking to be put by the vendor on panels after packing.

1. Case No: 1 no Size 25 cm X 4.5 cm.
2. BHEL Monogram: 1 no. Size 22 cm (Width) X 15 cm (height) (Ink marking as per 3.16)
3. Address sticker: 1 No Marking plate as per 3.15 and 1 No (label Size 38 cm X 30 cm) and other Two Side Material & case number with ink as per 3.16
4. Direction sticker " Front " & " Back " – Marking on wood Ink Marking as per 3.16
5. Chain Mark: 4 Nos. Size - 30 cm X 7.5 cm (Ink Marking as per 3.16)
6. "Fragile " & "DO NOT STACK " sticker: 1 No Size. 22cm (Width) X 30 cm (Height)

STICKERS The following stickers / Ink Marking to be put by the vendor on loose case Boxes after packing.

1. Address sticker: Address to be written on wood with Ink till 1.0 mtr and above 1mtr label to be put (label Size 38 cm X 30 cm)
2. Marking plate 1 No clause 3.15 .
3. Chain Mark: 4 Nos. Size - 30 cm X 7.5 cm (After height from 1.2 meter with ink)
4. "Fragile " label: 1 Nos Size. 22cm X 15 cm and 8 x 12cm smaller cases
5. O&M spares and Initial spares label 20 cm x 7 cm
6. RPP boxes – System generated print address label with fragile label (8x 12 cm).

4.0 Chemical treatment for silver oak preservation

4.1 The silver oak battens are to be treated with ASCU solution. For plywood wood treatment is not required.

4.2 The chemical used shall be ready mix ASCU paste. This consists of Arsenic, copper sulphate, sodium dichromate. This paste shall be mixed at the rate of 1 kg of paste per 10 liters of water. Alternate to this CCA can also be used as indicated at para 4.4

4.3 The chemical treatment shall be done at the premises of the contractor. A cement concrete tank of capacity to hold a minimum of 2000 liters of solution shall be constructed. The solution shall be prepared in the presence of BHEL- EDN's representative by contractor. The wooden battens shall be soaked in the solution for a minimum of 12 hours.

The solution shall be replenished after treating a maximum of 12 cubic meters of wood for 2000 liters of solution. A log book shall be maintained by the contractor to give the details of date of preparation of solution, quantity of solution prepared, quantity of chemicals used, quantity of wood treated and the details of replenishment.

Samples of solutions [only paste before mixing] shall be tested at the

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laboratories designated by BHEL. The testing fees to be paid to the laboratories will have to be borne by the contractor. The solution [paste] shall be tested as and when required.

4.4 Specifications for water soluble type wood preservatives:

Copper - Chromium - Arsenic [CCA]:

Copper - Chromium - Arsenic preservative formulation shall be as per IS : 10013 Part - II - 1981 shall consist of following active ingredients in nominal proportions by weight as shown below:

Arsenic Pentoxide	$As_2O_5 \cdot 2H_2O$	12.5
Copper Sulphate	$CuSO_4 \cdot 5H_2O$	37.5
Sodium Dichromate	$Na_2Cr_2O_7 \cdot 5H_2O$	50.0
Or		
Potassium Dichromate	$K_2Cr_2O_7$	

5.0 **Jointing of plywood-** to the extent possible, single plywood sheet shall be used in case of equipment of large size, jointing is allowed as bellow.

5.1 The joining shall be as close to the center of equipment as possible, but not less than 500 mm from one edge.

5.2 While joining (2 or more plywood sheets), care shall be taken to fix the sheets in the direction of the grain structure.

5.3a For joining Plywood and Silver oak wooden batten:
While joining, 2 sheets shall be kept close to each other and treated silver oak batten of 100 mm width and 45 mm thick to be used and nailed to both plywood sheets alternately (2 numbers) in zig-zag manner.

5.3b For Joining plywood with plywood sheets :
While joining, 2 sheets shall be kept close to each other and plywood sheet batten of minimum 100 to 200 mm width and 18 mm thick to be used depending upon the size of the box/ case and nailed to both plywood sheets alternately (2 numbers) in zig-zag manner. Suitable size nails to be used.

5.4 Jointing of silver oak batten: Only single length silver oak batten shall be used. In case of height or width of equipment is more than 2400 mm, jointing of batten is acceptable. The jointing of batten shall be such that two batten are kept together and one more batten of width & length of about 200 mm to be nailed on both the planks as in Clause 5.3 above.

5.5 The above jointing is to be done close to center of equipment.

6.0 Packing procedure

6.1 Packing of cubicles for inland contracts.

6.1.1 Packing to be done using materials given in clause 3.0.

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- 6.1.2 The cubicles are fixed on wooden pallets. Hence the contractor need not arrange the bottom pallets.
- 6.1.3 Loose parts : All loose parts in the cubicles, shall be tied using cotton/ plastic tape. Wooden battens shall be provided wherever necessary.
- 6.1.4 Additional loose items which may be kept inside the cubicle.
- a. The components which are removed from cubicle for loose shipping, such as meters shall be kept inside the cubicle individually kept in wooden box and tied firmly to the bottom of cubicle.
 - b. Other items which are given loose in addition to cubicle, shall be packed in separate boxes (like cables).
 - c. For transformer cubicles loose items shall be packed in separate boxes and these boxes may be tied firmly in bottom of cubicles.
 - d. Items which are bigger in size such as impulse tubes may be kept at the top of cubicles firmly bunched and tied.
- 6.1.5 Wooden batten: This batten shall be silver oak wood. In case of Cubicle which are not rectangular in shape like control desks, sufficient number of wooden rafters/ battens of proper size shall be provided to give strength to the package.
- 6.1.6 Silica gel: Silica gel (as in 3.10) packed in cotton bag (as in 3.11) shall be kept at different place inside the cubicle as per BHEL-EDN directions. The quantity of Silica Gel shall not be less than 1kg/1000 Litre [per cubic metre] volume of the packing box.
- 6.1.7 Polyethylene sheet covering: Cubicles shall be covered with polyethylene petticoat (sheet as in 3.4). This shall be tailor made to fit the cubicle. The sealing shall be such as not to allow any moisture to enter the cubicle. This sheet is to be nailed on pallet by using plastic strip 12 mm width (plus or minus 1mm) on all four sides.
- 6.1.8 After completion of this, the arrangement is as shown in Fig.1.
- 6.1.9 Rubberized coir: (as in 3.7) to be nailed from inner side of plywood after pasting Kraft paper for full length with a pitch less than 500mm with a min. of 2 rows of cover is to be used.
- 6.1.10 Bituminised water proof kraft paper: (as in 3.5) to be pasted with glue or nail on 4 inner sides of plywood. Whenever 2 pieces of kraft paper are used the joint shall have an over lap of min 20 mm.
- 6.1.11 Bitumen coated Hessian polyethylene kraft paper (as in 3.6) to be nailed using nails (as in 3.3) on top cover inner surface. This sheet shall project outside on 4 sides by atleast 100 mm and shall be folded and nailed on to the sides. Joining of 2 sheets shall have an overlap

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of min 20 mm.

6.1.12 After completion of above steps, the arrangement shall be as given in Fig.2.

6.1.13 Marking Plate: One no (as in 3.15) shall be nailed to the front side of case, item as shown in Fig.3.

6.1.14 Case Marking: After complete packing, marking of various details and symbols as given by EDN shall be done using indelible ink (as in 3.16)

6.1.15 Packing Slip: Packing slip kept in polyethylene bag (as in 3.18) shall be placed inside the box at appropriate place before closing the top. in addition, one more packing slip covered in polyethylene cover and packing slip holder (as in 3.17) shall be nailed to front or rear of shook.

6.1.16 At the end of this stage, the arrangement is as shown in Fig.4. Front and rear shook fixing arrangement to the bottom of the pallet is as shown in Fig.5

6.1.17 The lifting arrangement of the packed case is **shown in Fig.6**

6.2 Packing of cubicles for export contracts Procedure is same as that given in 6.1 except for the following changes:

- Two Polyethylene petticoat (as in 6.1.7) instead of one
- Fumigation may have to be done if required (BHEL Scope).

6.3 Packing of empty Cubicles Procedure is same as that given in 6.1 except For following changes

- Bituminised kraft paper, bitumen coated Hessian polyethylene paper, silica gel need not be used.

6.4 Packing of loose items/spares for inland contracts

6.4.1 All the materials and procedure are same as in 6.1 except that :

- No joining of plywood and silver oak batten
- Inner sides of all 6 sides shall be nailed with bitumen coated Hessian polyethylene kraft paper (as in 3.6) using nails.
- Kraft paper (as in 3.5) is not required
- Silica gel quantity is 100 gm approx per box.
- Rubberized coir is to be nailed to inner surfaces of bottom 4 sides of box.
- Bottom plywood sheet / pallet shall be of 18 mm thick for all practical purposes and 12 mm thick for smaller boxes on need basis. Suitable bottom beams made out of plywood/ any other wood of suitable cross section 75x36 mm, 75x54 mm, 75x75 mm, 100x100 mm.
- Support battens of cross section 12x50mm, 12x75 mm, 12x100mm, 18x50mm, 18x75 mm, 18x100 mm can be used depending upon the size of the boxes. Plywood support battens can be used in the place of silver oak battens.
- PVC strap of 15 mm width (plus or minus 1mm) with clips for smaller cases.

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- Clause 6.1.10 is not applicable. Individual items to sealed with polyethylene sheet(as in 3.4) and one full cover of polyethylene sheet covering of all items is to be made.

- 6.4.2 In few cases gabled roof (single or double gable) may have to be made, details of which will be given by EDN.
- 6.4.3 Internal Packing: Items that go into the box shall be packed using polyethylene sheet/ U foam/ thermocol sheets/air bubbled sheets/ paper cartoons and cotton tape. Any space left between the job and the sides and the top of the box shall be filled with rubberised coir/air bubbled sheet /thermocole to get proper cushioning effect. Certain items like transformers, reactors, breakers, etc shall be bolted to the bottom of the box using bolts, nuts and washers.
- 6.5 Packing of Loose items/ Spares for Export Contracts: Procedure is same as that given in 6.4 except for following changes:
- Two polyethylene covers to be provided,
 - Fumigation may have to be done, if required, for which payment will be made by EDN. Treatment of wood as per ISPM-15.
- 6.6 Any other changes/ new methods/ alternative packing systems can be undertaken with prior information and approval from the dept. For other parameters and further details concerned agency may please be contacted.

7.0 ACCEPTANCE CRITERIA OF PLYWOOD :

PLYWOOD FOR GENERAL PURPOSE GRADE FOR PACKING - AS PER IS:303

1. Plywood sheets shall have IS:303 & BWR / MR grade stamped on each sheet.
2. Packing/contractor should give a certificate to this effect.
3. Contractor shall identify each sheet with their name/firm in suitable place.
4. Visual checks to be done by packing contractor and EDN-QC CE shipping.
5. For other parameters, testing will be done at authorised laboratories/institutions by EDN on sample basis.

7.1 FOR BWR GRADE : TABLE-1 QUALITY REQUIREMENTS OF PLYWOOD

Sl NO	Defect Category	Maximum Number of Defect Permitted on any one surface of panel (as applicable to Type A Surface of IS:303)
1.	Blister	Nil

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2. Check	Individual check not more than 50mm in length and the total length not more than 300mm/m ²
3. Discoloration	Nil
4. Dote	5cm/m ²
5. Insect hole	Scattered up to 12 holes/m ²
6. Joints	One joint for every multiple of 200mm provided no individual piece is less than 100mm in width
7. Knots (dead)	2 up to 12mm dia/m ²
8. Pin knots (dead)	2/m ²
9. Pin knots (live)	No restriction
10. Knots (tight)	6 up to 25mm dia/m ²
11. Patches	4 patches/m sq provided they are all tight patches & do not mar the appearance
12. Splits	2 splits each not more than 1mm wide and length not more than 100mm provided they are filled with suitable filler
13. Swirl	Unlimited provided they do not mar the

7.2 FOR MR GRADE : TABLE -2 QUALITY REQUIREMENTS OF PLYWOOD

S/NO	Defect Category	Maximum Number of Defect Permitted on any one surface of panel (as applicable to Type A Surface of IS:303)
1.	Blister	Nil
2.	Check	Individual check not more than 100mm in length and the total length not more than 1000mm/m ²
3.	Discoloration	5 %
4.	Dote	15cm/m ²
5.	Insect hole	Scattered up to 24 holes/m ²
6.	Joints	: No restrictions
7.	Knots (dead)	4 up to 20mm dia/m ²
8.	Pin knots (dead)	: 6/m ²

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- | | |
|---------------------|---|
| 9. Pin knots (live) | No restriction |
| 10. Knots (tight) | : No Restrictions |
| 11. Patches | Any number provided they are all tight patches & do not mar the appearance |
| 12. Splits | 3 splits each not more than 4 mm wide and length not more than 150 mm provided they are filled with suitable filler |
| 13. Swirl | NO restrictions |

7.3 Thickness of Plywood sheets:

The plywood boards shall be of uniform thickness within specified tolerance limit specified. The faces of plywood boards shall be reasonably smooth.

7.4 PERMISSIBLE DEFECTS:

Gaps in cores and cross-bands may be permitted except for 3 ply plywood, provided the width of the gap does not exceed 1mm in case of and 2 mm in case of plywood of more than 5 ply and provided such gaps, if more than one, shall be spaces not less than 80mm away from each other and are staggered not less than 50mm away as between ply, the next ply having the same grain direction.

7.5 WORKMANSHIP AND FINISH:

The plywood boards shall be of uniform thickness.

The faces of plywood boards shall be reasonably smooth and face veneers shall be reasonably uniform thickness.

7.6 TESTS:

For testing any other mechanical property of general purpose plywood, Subject to agreement between the purchaser and the supplier, reference shall be made to the provisions of IS 1734 Part 1 and 20)

8.0 Procedure for handling of Components

Procedure for handling of components shall be as per Clause 12 (procedure for handling of components) of the Corporate Standard for Export Packing (AA0490009)

9.0 Details of Drawings / Figures attached:

- | | | |
|--------|---|---|
| Fig- 1 | : | Packing of panel - Preparation |
| Fig- 2 | : | Shookes preparation |
| Fig- 3 | : | Marking Plate |
| Fig- 4 | : | Packed panel with plywood and silveroak battens |

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Fig- 5 : Detailed joining of pkg shookees with battens
Fig- 6 : Lifting of packed case
Fig- 7 : Mechanical Latching clamps
Fig 8 & 9 : CLW Railway panel packing
Fig 10 to 13: Packing of panels and spares packing cases.

Additional points to be taken care for:

Easy Spares (Initial and O & M) Traceability and Identification at units as well as at sites:

(Recommendations from Corporate Systems and IT)

Sl No	Activity
1	All initial and O & M Spares preferably supplied on one lot to site and progressive inventory till all spares are accumulated could be kept at units
2	Spares (Initial and O&M) should be supplied in separate boxes/containers and not mixed in main supply boxes.
3	i) Initial Spares box/container to be labelled as "Initial Spares" in Red. Ref Fig: 14 ii) O & M Spares box/container to be labelled as "O & M Spares" in Green. Ref Fig : 14
4	iii) Initial spares box to have red colour strip as per the diagram Ref: Fig: 14 iv) Majority of spares (initial and O & M) are for indoor storage at site v) O & M Spares box to have green colour strip as per diagram. Ref Fig: 14
5	vi) Spares (Initial and O & M) packing list kept inside the boxes and affixed securely outside the box to contain the following: a) Customer Name b) Project / Power Station Name c) Customer PO No and Date d) Quantity total and Dispatched e) Unit Work Order No f) All the above to be developed from Unit IT System.
6	vii) All the spares (Initial and O & M) items to have tags (WO NO, Item Customer Order No, Customer Item, Description)
7	viii) Supply of spares by vendor should also be instructed to follow the points 2,3,4,5 and 6 as mentioned above

Action By: Sites on arrival of Spares (Initial and O & M) receipt

1	Material utilized if any from initial spares and O & M spares, should have prior written approval of concerned MUs. Such MUs shall also confirm replacement dates which should be entered in the system for creation of repository.
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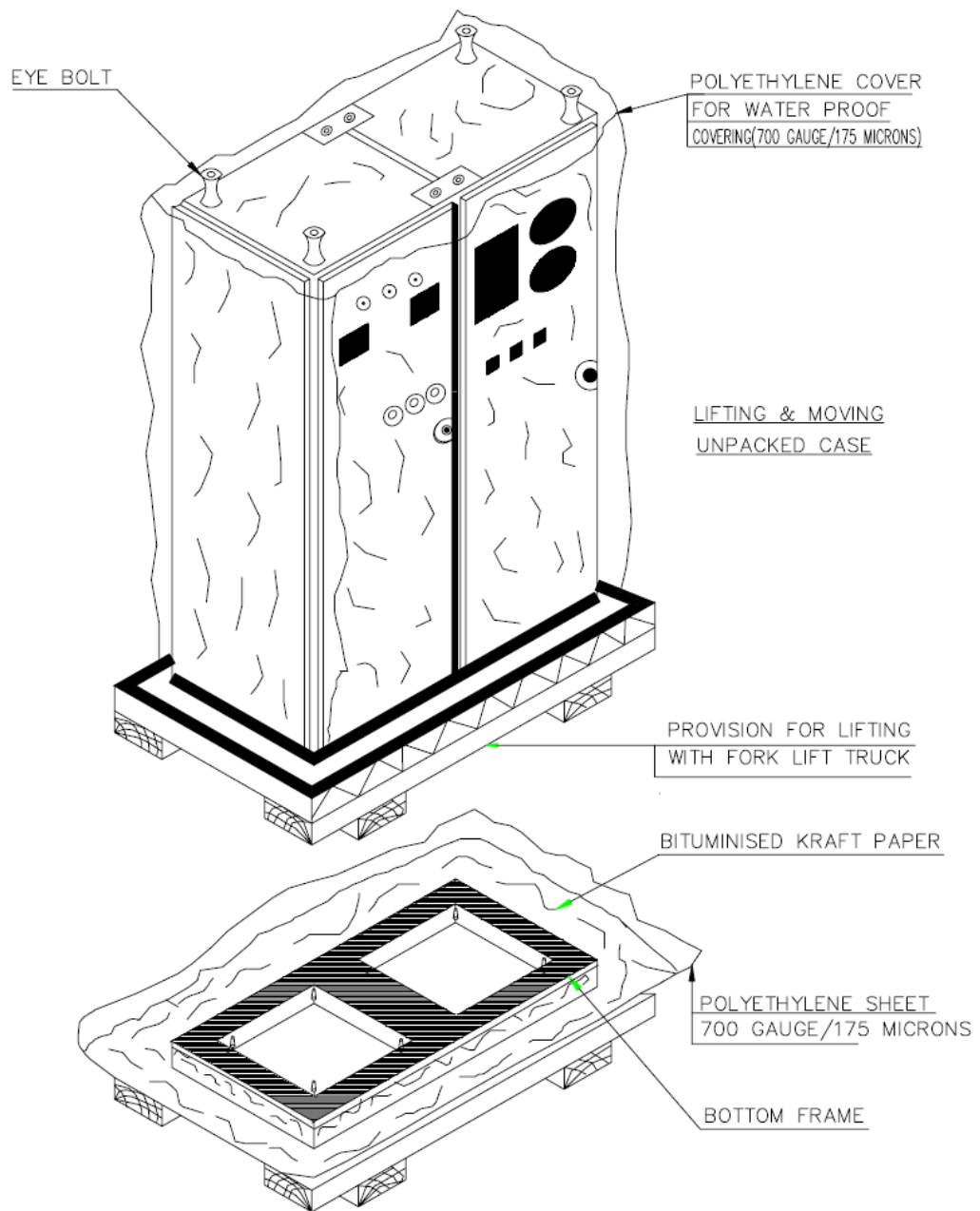


FIGURE-1



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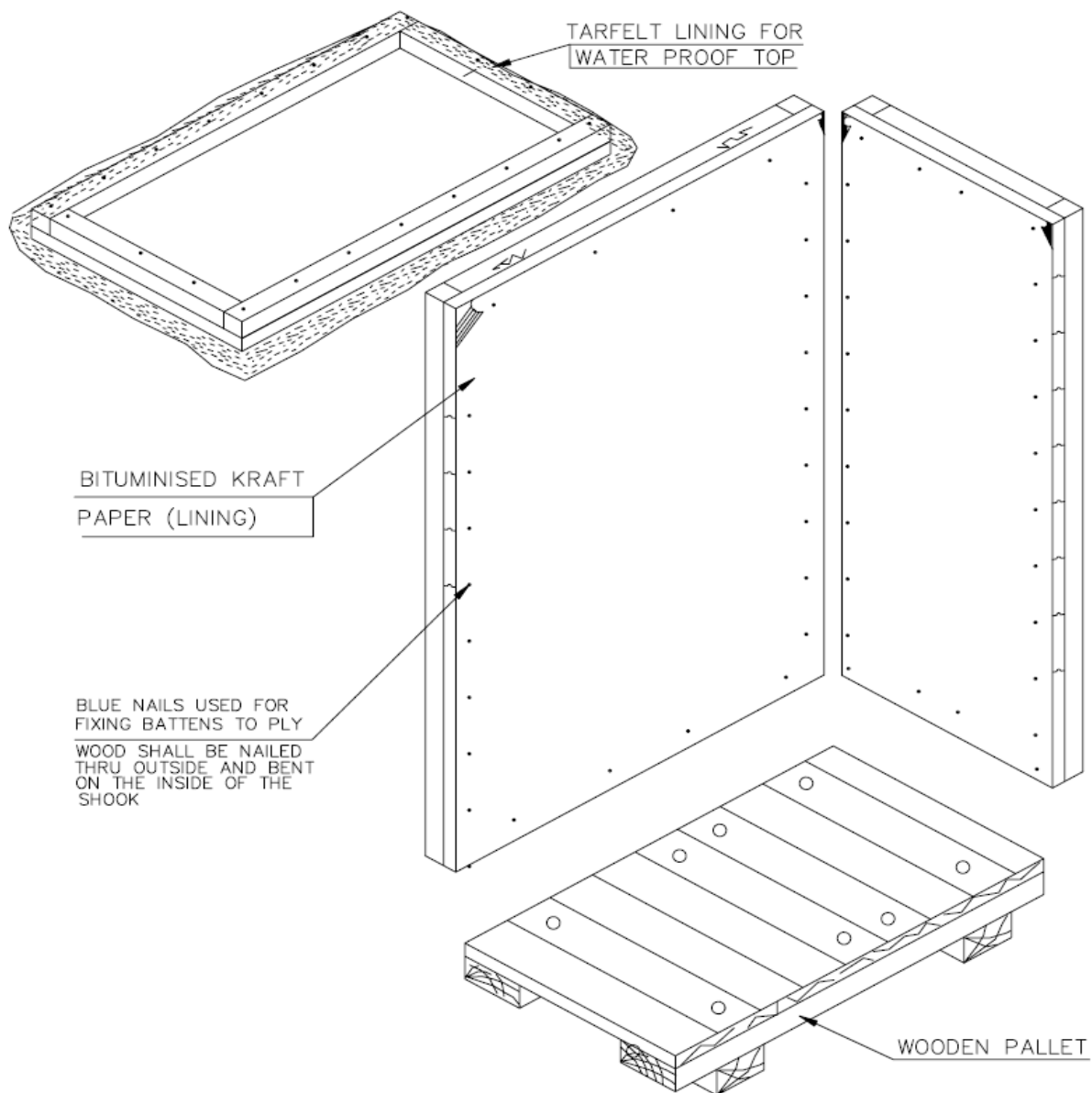


FIGURE-2

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		BHEL-EDN-BANGALORE-26					
CONSIGNEE							
MATERIAL							
CUSTOMER REF.		MO. NO.					
DESPATCH ADVICE NOTE NO.		CASE NO.					
DIMENSIONS(MM) LXBXH		NET WT -KGS		GROSS WT -KGS			
SPECIAL INSTRUCTIONS		HANDLE WITH CARE - KEEP DRY DO NOT DROP - DO NOT TILT					

FIG-3 : MARKING PLATE

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PLYWOOD SHOOKS BOLT TYPE WITH SILVER OAK BATTONS

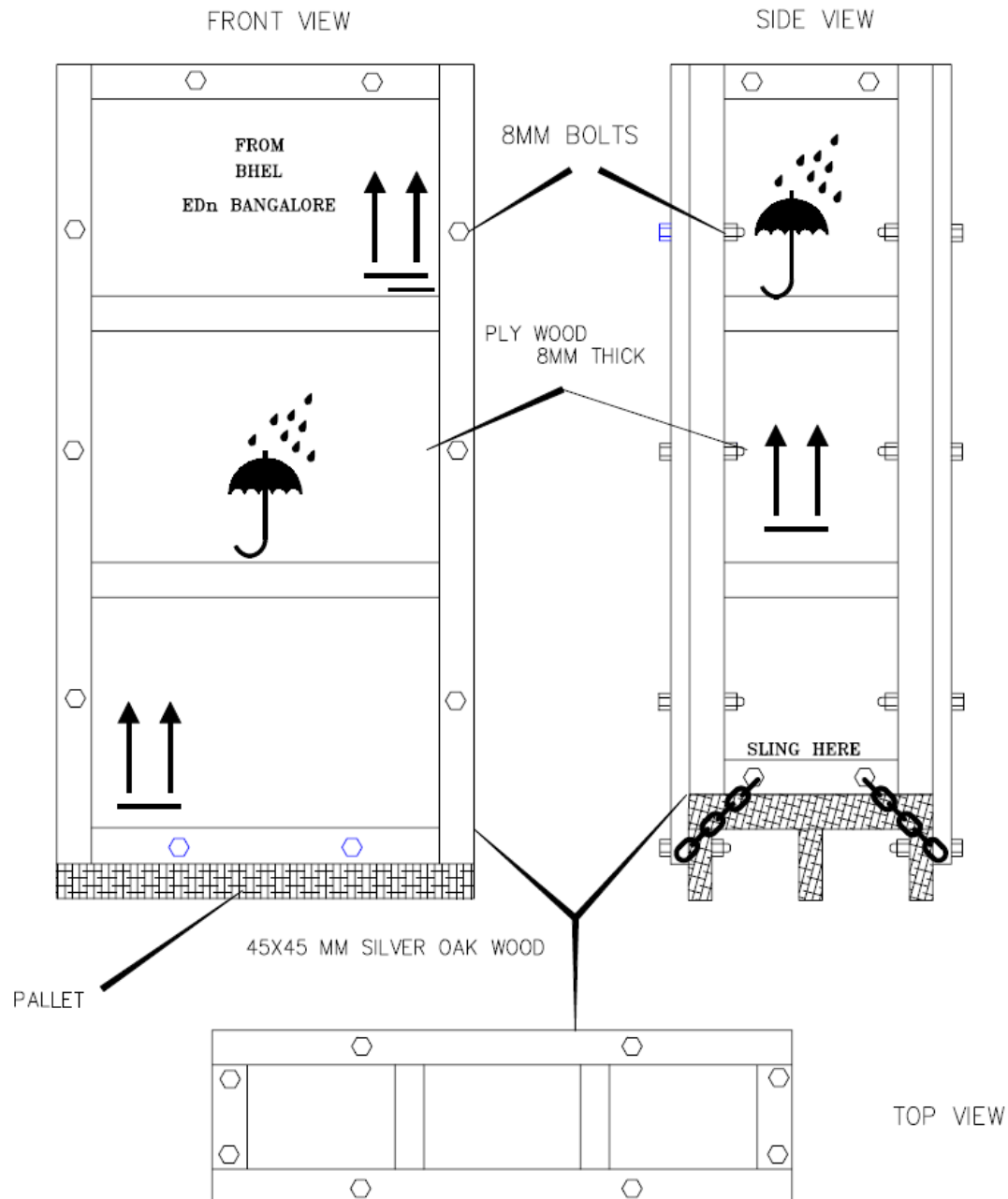


FIG-4



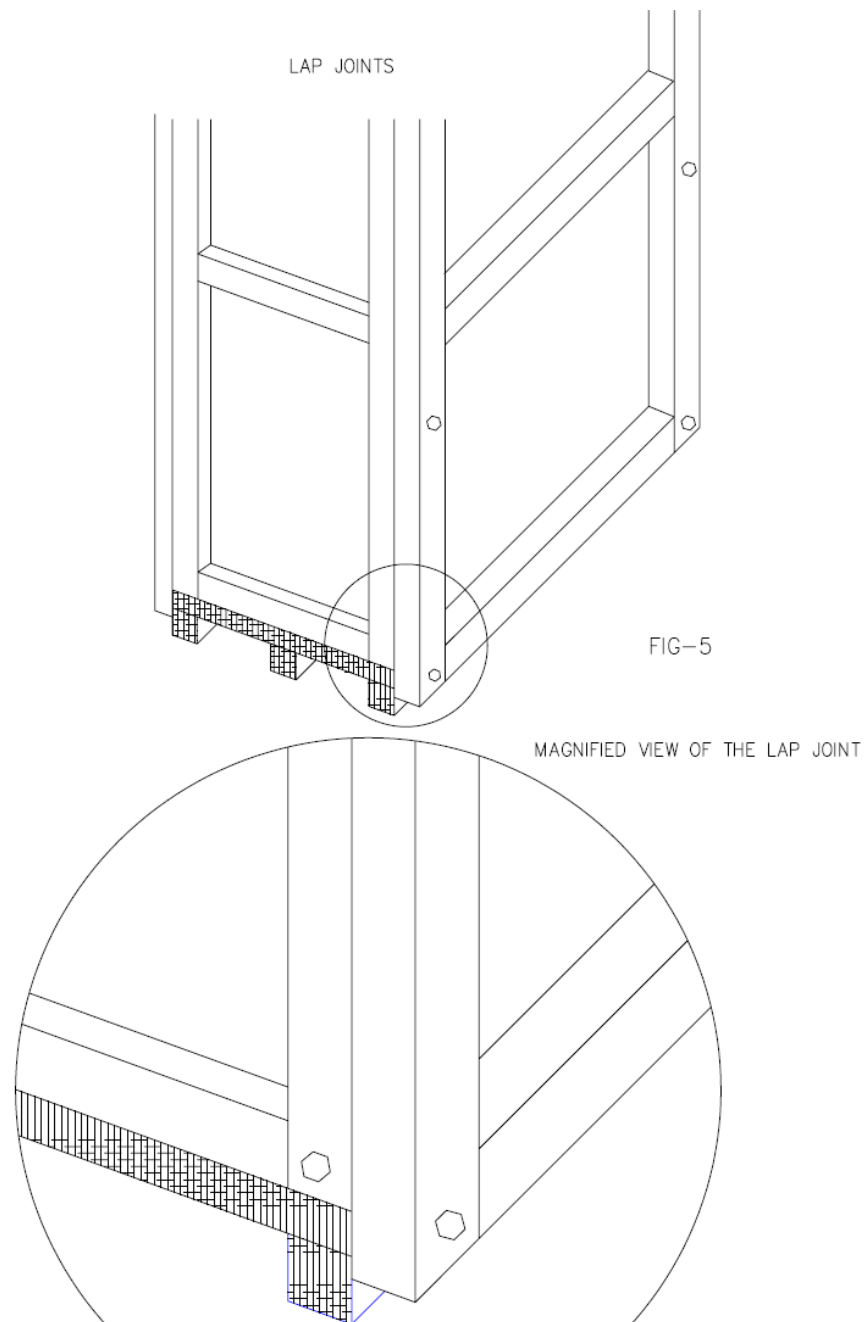
A4 - 14

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PLANT STANDARD

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REV NO 11

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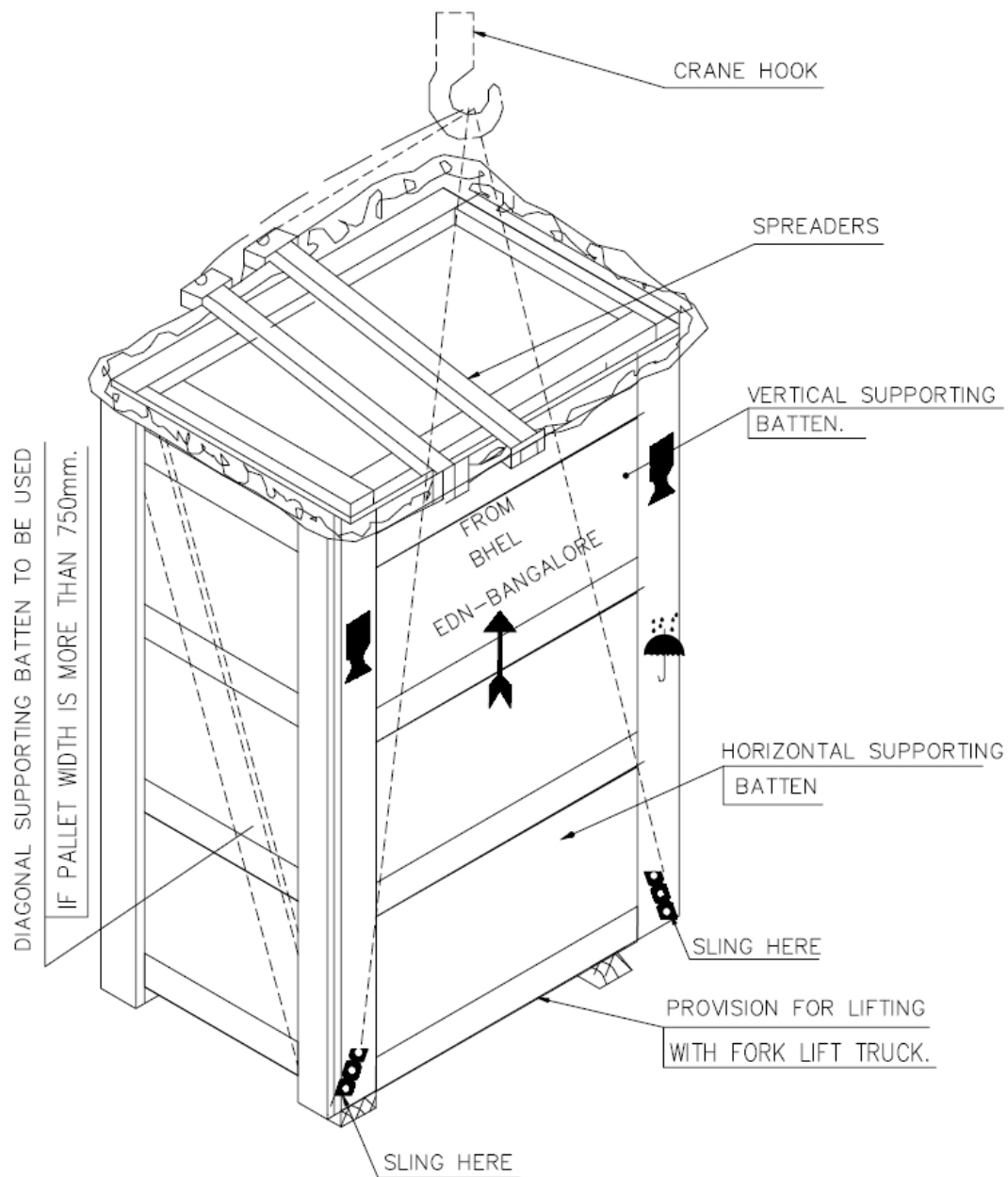


FIG-6 : LIFTING OF PACKED CASE



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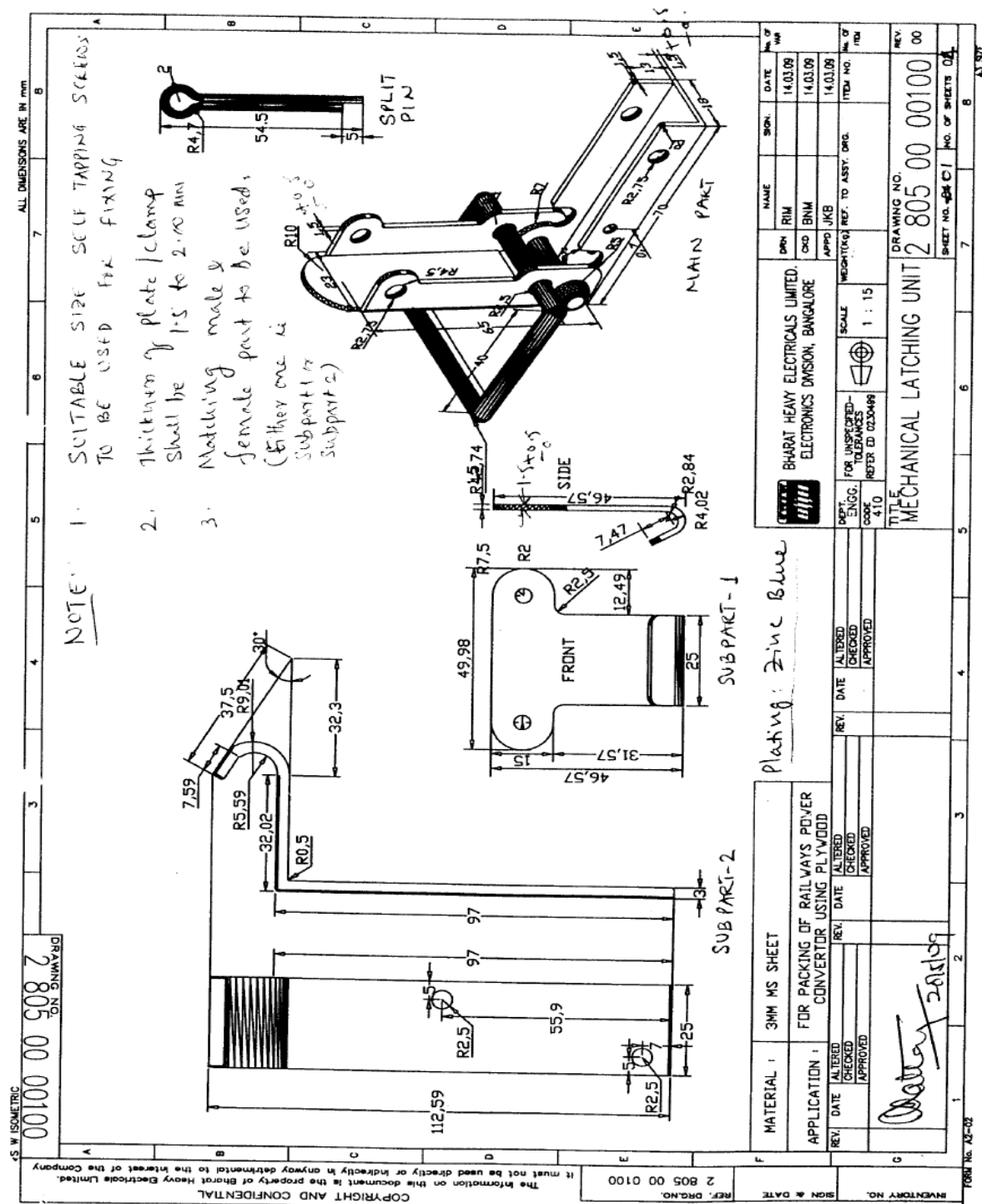


Fig- 7 : Mechanical Latching Clamp



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PLANT STANDARD

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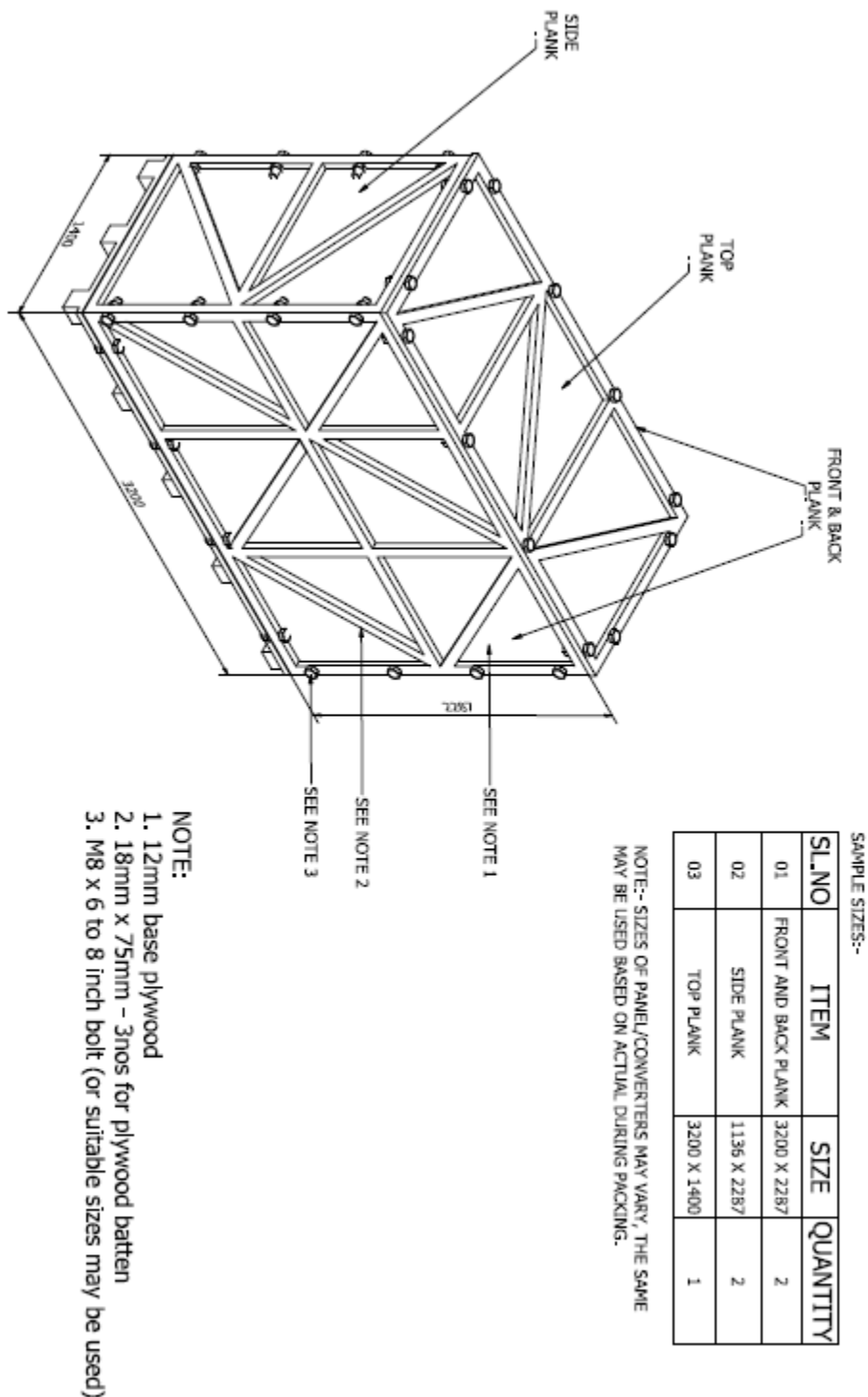


Fig 8:- Packing of Railway Converter Panels with Plywood & Plywood Battens.



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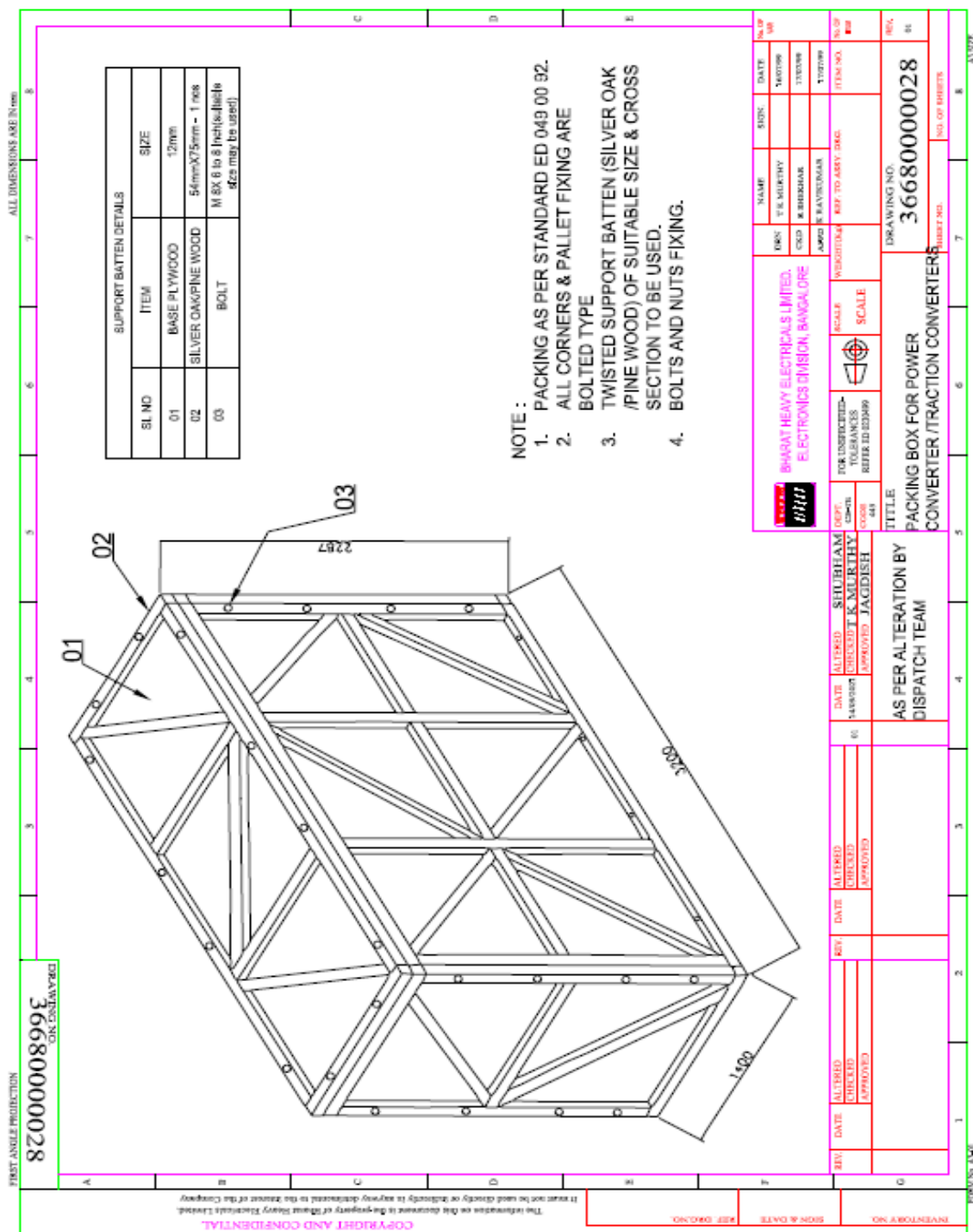


Fig- 9:-Packing of Railways Converter Panel with Plywood & Silver Oak/Pine wood Battens.



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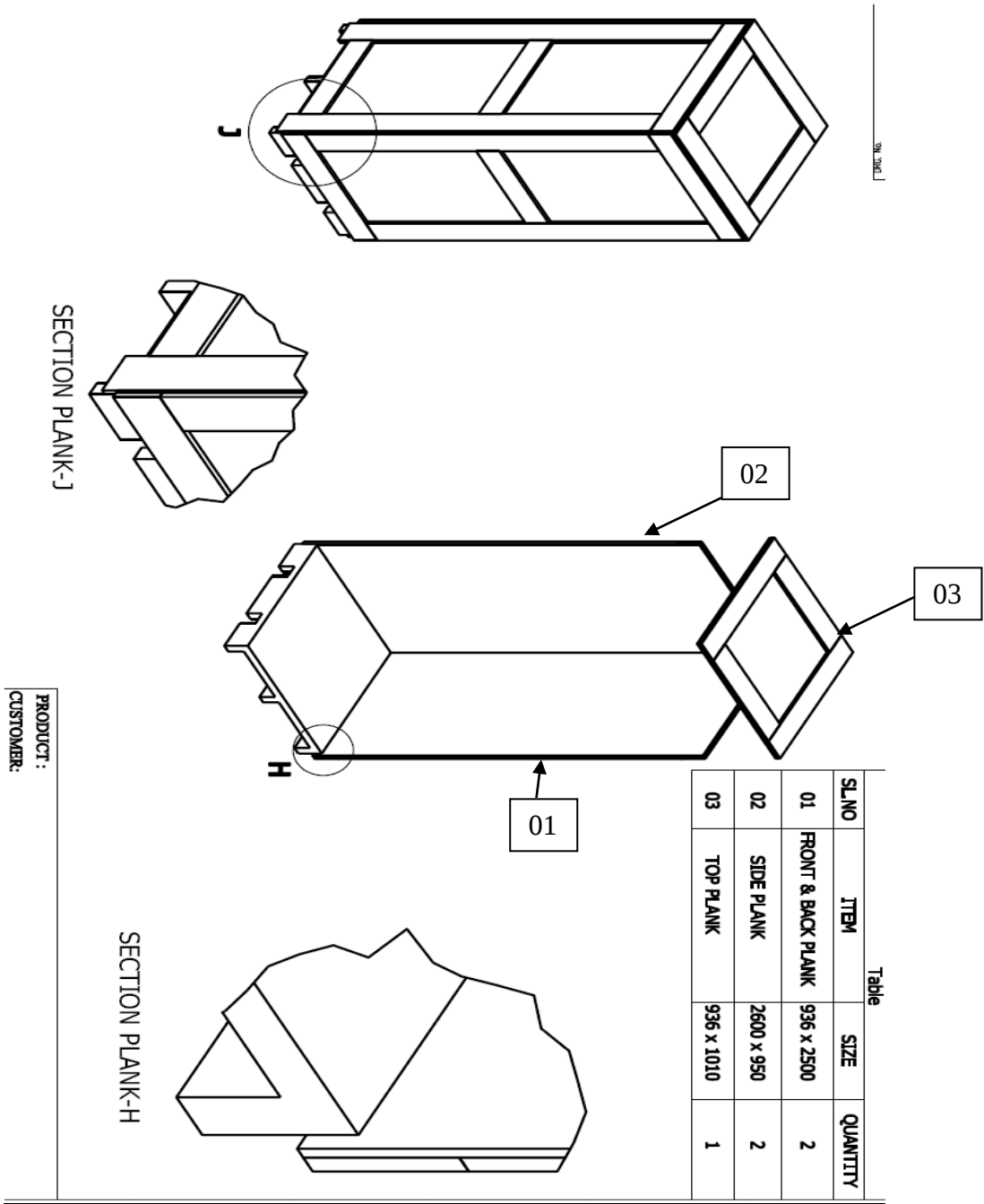
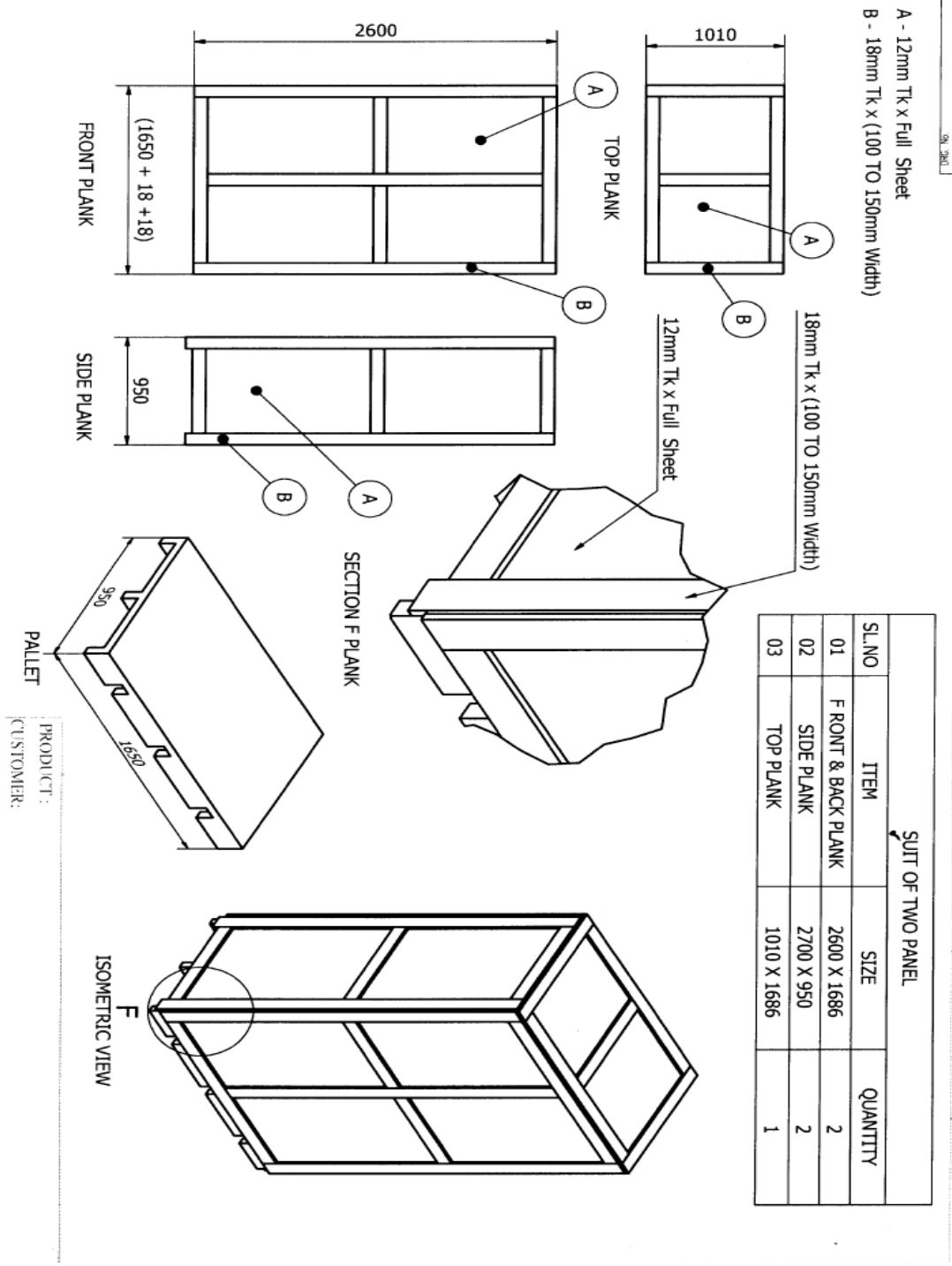


Fig-10 : Plywood Packing for Single Suit Panel.

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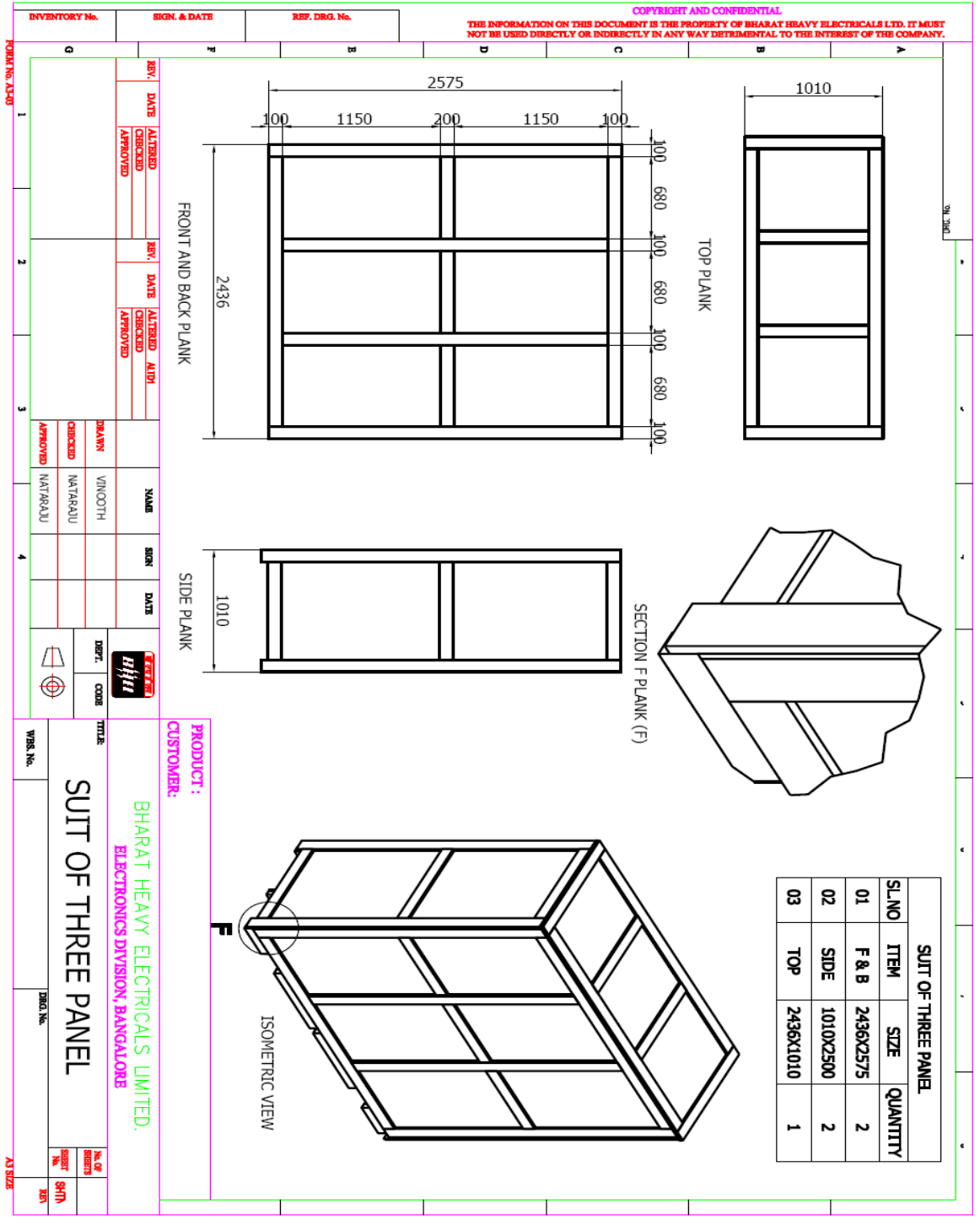


Fig – 12 : Three Suit Panel Packing

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		REV NO 11
		Page 25 of 25

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DEPT. 		CODE 		M.D. No. 		AS PER OPEN TOLERANCE 10 ED 0230499																	
TITLE SAMPLE PLYWOOD BOX WITH PALLET		CARD CODE 		NO. OF SHEETS 03		SHEET NO. 01																	

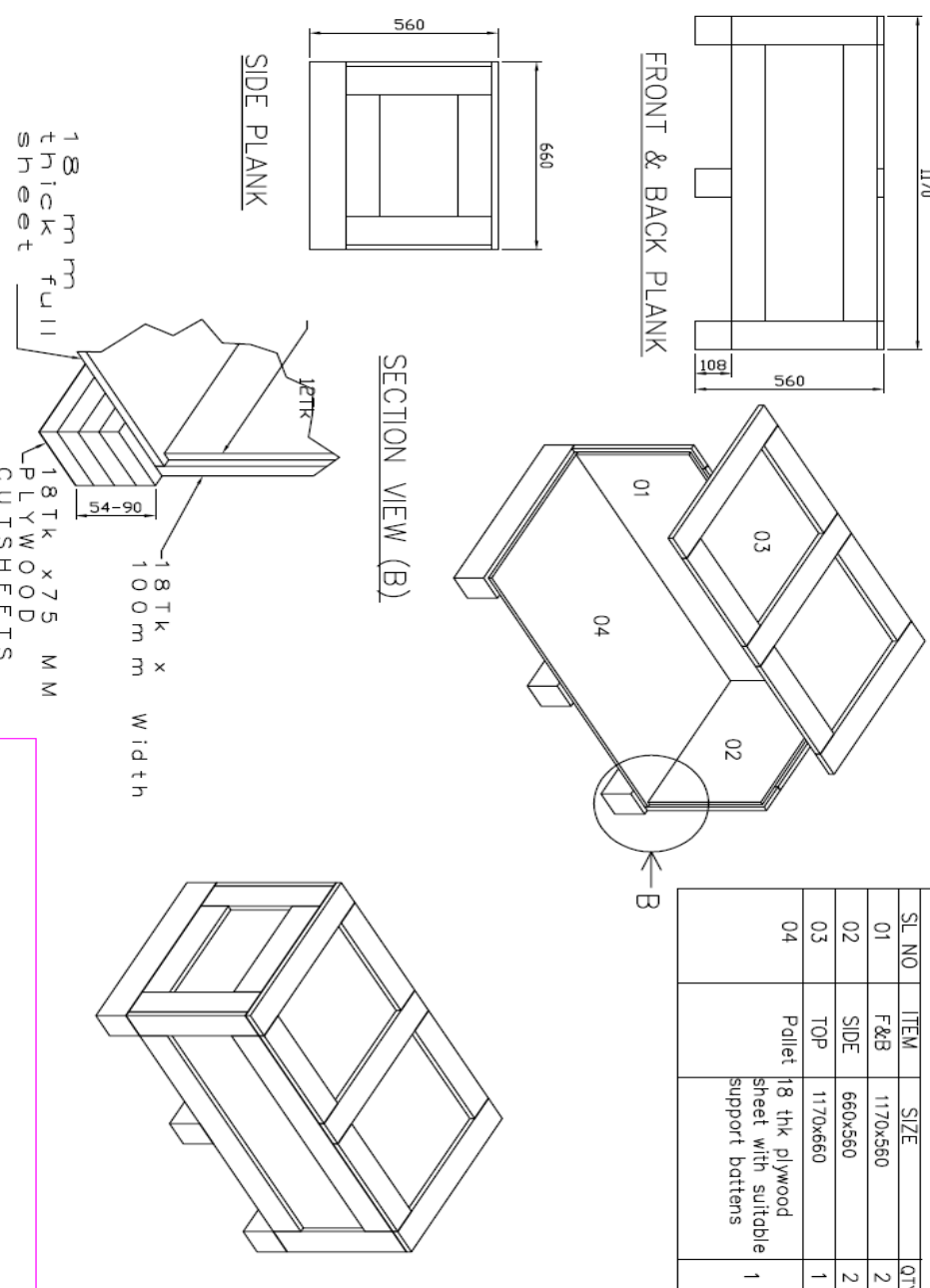


Fig – 13 : Plywood small case with Pallet

BHEL

Instruction

±800 kV, 6000 MW HVDC Khavda – Nagpur Terminals

HVDC

PACKING INSTRUCTIONS FOR THYRISTOR MODULES

GI2191SH16600102

BHEL

HVDC

±800 kV, 6000MW HVDC Khavda – Nagpur Terminals		Document Number	No of Pages
		GI2191SH16600102 Ref Hitachi doc Packing information	7 No of Attachment Pages 0
Prepared		Title Packing Instructions for Thyristor Modules	
N Subramanian 20-03-2025			
Approved	Dept		
S. Lakshminarayana 20-03-2025	HVDC & RPM		

PACKING INSTRUCTIONS FOR THYRISTOR MODULES

Rev ind	Revision text	Prepared	Approved

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HVDC

PACKING INSTRUCTIONS FOR THYRISTOR MODULES

GI2191SH16600102

1.0 Safety Information

The packing procedures for thyristor modules present potentially unsafe conditions, including, but not limited to the following:

- Moving machinery
- Heavy components
- Slip, stumble or fall
- Hot equipment

Specialized procedures and instructions are required and must be adhered to when working on such apparatus. Failure to follow the instruction could result in severe personal injury, death and/or product or property damage.

Additionally, all applicable safety procedures such as regional or local safety rules and regulations, safe working practices, and good judgment must be used by the personnel when installing and operating such equipment. Safety, as defined in this instruction, involves two conditions:

Personal injury or death

Product or property damage

Safety notations are intended to alert personnel to possible personal injury, death or property damage. They have been inserted in the instructional text prior to the step in which the condition is cited.

The safety conditions are headed by one of the three hazard intensity levels, which are defined as follows:

DANGER

Immediate hazard, which will result in severe personal injury, death or property damage.

WARNING

Hazard or unsafe practice, which could result in severe personal injury, death or property damage.

CAUTION: Hazard or unsafe practice that could result in minor personal injury or property damage.

2.0 Packing Material

1 pc	Box	36722600805	Bolted type plywood box Shown in Fig 1a & 1b
1 pc	Plastic cover	1JNL100033-741	
1 pc	Thyristor module		Fig 2
1 pc	Packing element	1JNL100109-276	Fig 2 Pos 3 above heat sinks
1 pc	Packing element	1JNL100109-307	Fig 2 Pos 7 between capacitors
1 pc	Packing element	1JNL100109-309	Fig 2 Pos 8 below capacitors
9 pcs	Packing elements	1JNL100109-275	Fig 2 Pos 2 below heat sinks
2 pcs	Packing element	1JNL100109-267	Fig 2 Pos 4 frame corner
2 pcs	Packing element	1JNL100109-273	Fig 2 Pos 5 frame corner
2 pcs	Packing element	1JNL100033-735	Fig 2 Pos 6 bus bar
2 pcs	Packing element	Figure 3	Fig 2 Pos 9 between box and yoke
1 pc	Packing element	Figure 4	Fig 2 Pos 10 below Thyristor module
6 pcs	Desiccant Silica bags	Each bag 400gm	Distributed in the box
1 pc	Humidity Indicator (BHEL scope)	2969137-1	Placed inside bag (readable)

NOTE: The packing elements shall be made of XLPE Foam or as specified in the above documents. Bolted type box shall be generally as per EDN Standard ED0490092 and as per the drawing given above.

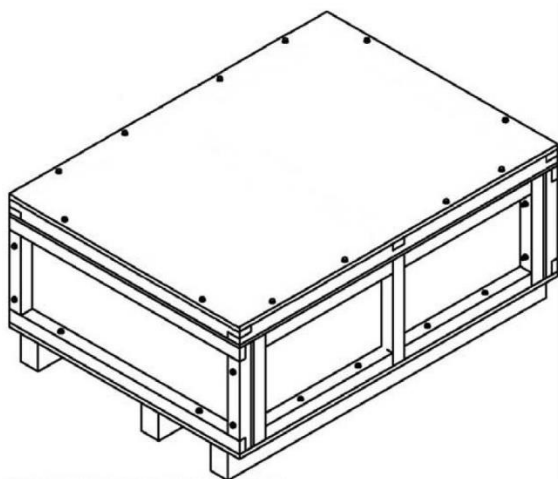


Fig. 1a : Box for packing Thyristor Modules



Fig. 1b : Typical bolted type construction of Box

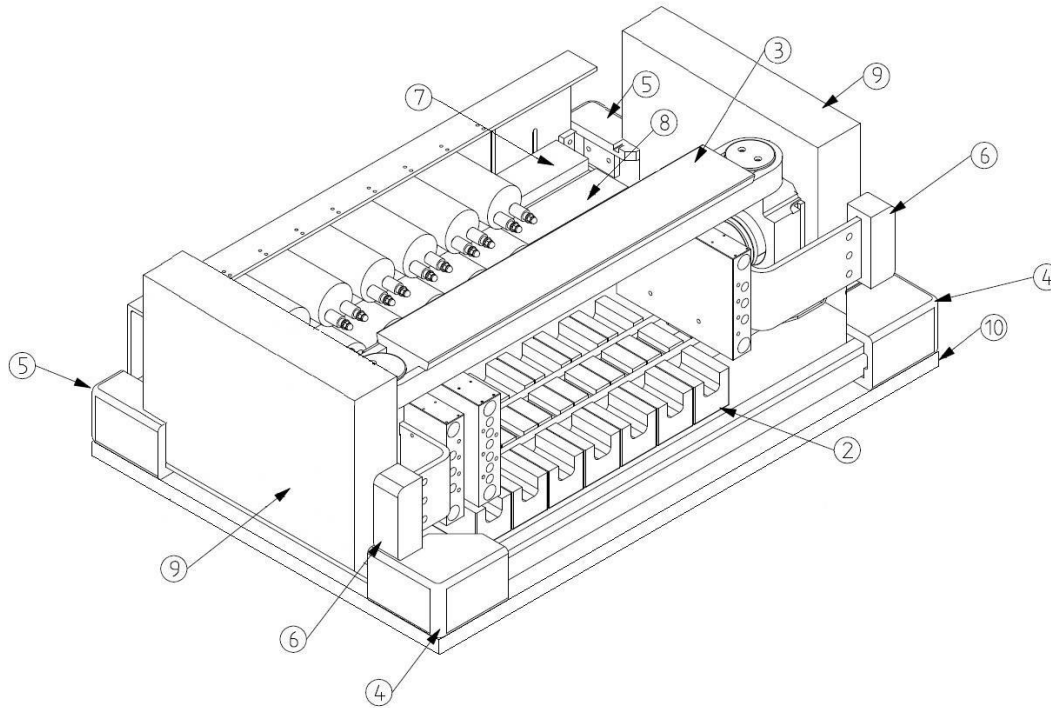


Fig. 2 : Packaging of the Thyristor Module

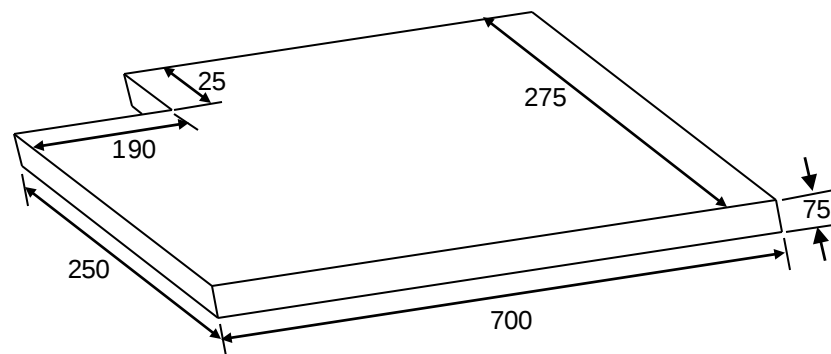


Fig. 3: Packing Element between Box and Yoke in Thyristor Module Packing

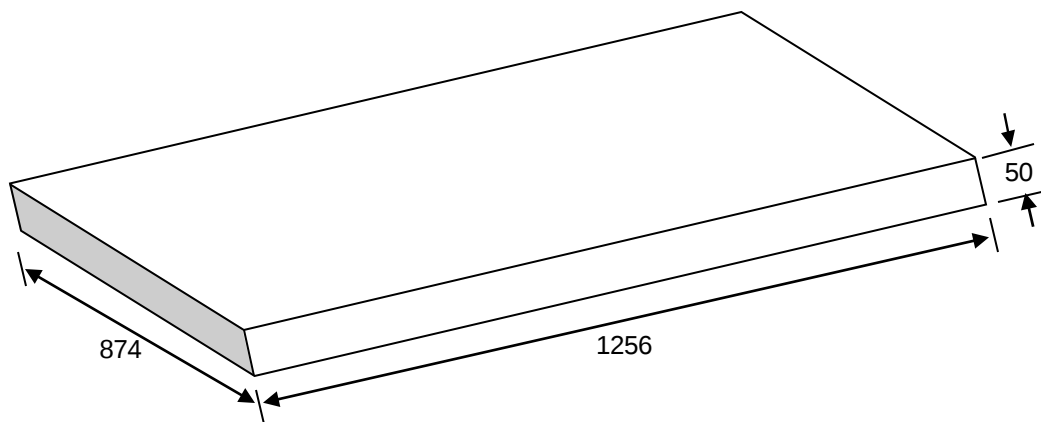


Fig. 4 : Cushion below the Thyristor Module

3.0 Assembly of packing elements

1. Assemble the box
2. Install the plastic bag in the box
3. Place the bottom cushion (Fig. 4) in the plastic bag

WARNING

4. Collect the thyristor module from the storage rack

WARNING

5. Lift the thyristor module with the four slings with hooks after inserting the hooks from the outside.
6. Mount all packing parts except pos 9 (Fig. 3) and pos 6 1JNL100033-735.

4.0 Packing of thyristor module

WARNING

7. Lower the thyristor module into the bag in the box. Pull up the sides of the bag before lowering the thyristor module all the way to the bottom.
8. Install pos 9 (Figure 3) and pos 6 (1JNL100033-735).
9. Place 6 nos. of desiccant bags, 400gm each, distributed in the box.
10. Place the humidity indicator inside the plastic bag such that it's readable even after sealing.

HVDC

PACKING INSTRUCTIONS FOR THYRISTOR MODULES

GI2191SH16600102

CAUTION

11. Seal the opening of the bag (with suitable heater) but leave a small opening for the vacuum suction.
12. Vacuum the bag and check that it is not leaking.

CAUTION

13. Seal the last opening (with suitable heater)
14. Fold the bag and put on the lid and fasten it
15. Mark the box with project name, station and thyristor module number.

5.0 Transport by road

Thyristor Modules thus packed in bolted plywood boxes may be directly loaded on trucks, anchored in place with ropes and transported to destination sites. During transport the maximum number of packed Thyristor modules that can be stacked is **three (3)**.

6.0 Marking of cases

Mark on the two adjacent sides of each package. The marking shall be weather resistant and shall be inalterable and indelible (ex.: UV rays, water, moisture, heat, cold, friction, etc.).

The size of marking label shall be at least 29 x 21 cm.

Mark the following on the two adjacent sides of each package.

☐ WBS No.	CE/2191-SHx-66-xx
☐ Storage Requirement	Indoor
☐ Content Description	Thyristor Module
☐ Net weight	In kilograms
☐ Gross weight	In kilograms
☐ Dimension	L x W x H in centimetres
☐ Case No.	As per BHEL standard
☐ Project Name	KN800 – HVDC
☐ Consignee	As per sale order

Colour Marking

In addition to the above marking all cases shall have colour marking of two adjacent upper corners.

Khavda site = Yellow

Nagpur site = Blue

Placing of marking

Each case shall have marking on two adjacent sides and one marking inside the box.

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PACKING INSTRUCTIONS FOR THYRISTOR MODULES

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Marking of case

In addition to the above marking, the case itself shall be indelibly marked with the same case number as stated on the template on all four sides. Figures **must** be at least 50 mm high.

According to the characteristics of the Contract Equipment, packages shall be marked legibly with words "Handle with Care", "Right side Up", "Keep Dry",

7.0 Storage requirements

The storage level of the packages is **indoor**

Packed thyristor modules have to be **stored indoor** both at the factory and at site.

For storage the maximum number of packed Thyristor modules that can be stacked is **five (5)**.

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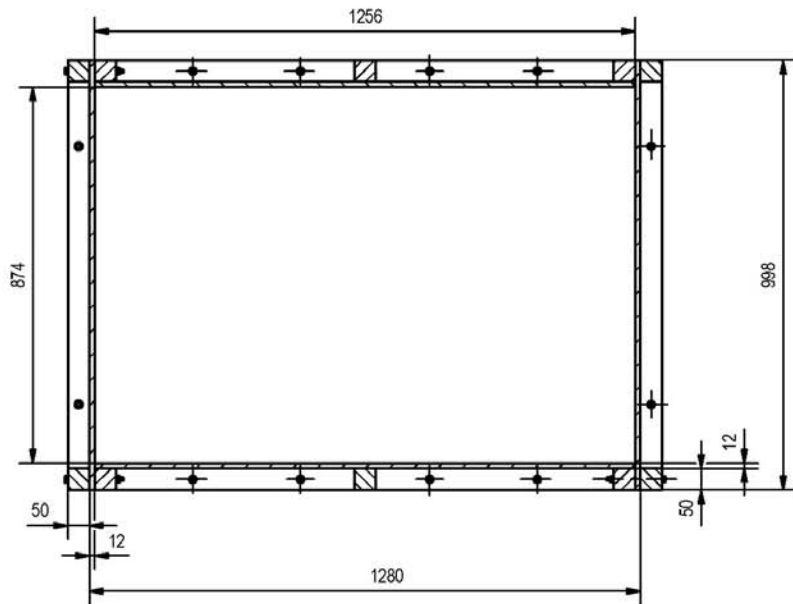
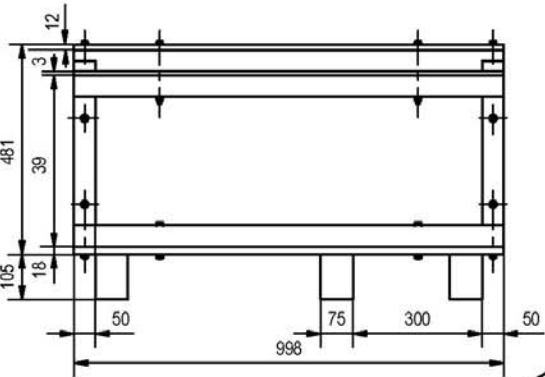
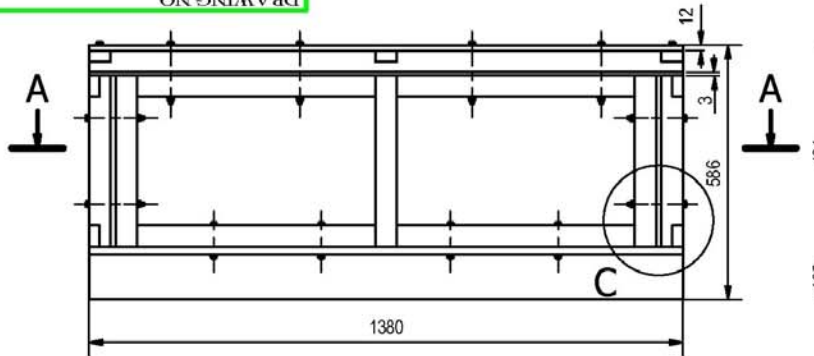
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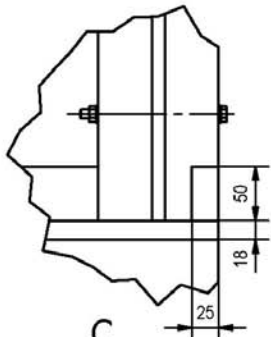
SIGN & DATE

INVENTORY NO.

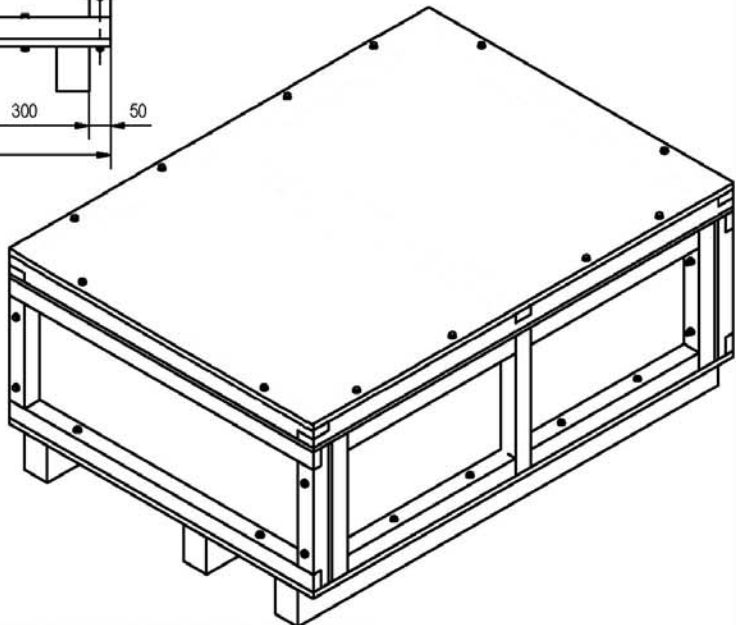
3 672 26 00805
DRAWING NO.



A-A
(1:12.5)



C
(1:5)



NOTE

1. 12MM PLYWOOD SHALL BE USED FOR SIDES AND TOP COVER OF GRADE MR. IS. 303
2. 18MM PLYWOOD SHALL BE USED FOR BOTTOM OF GRADE MR. IS. 303
3. 50MMx50MM WOODEN BATTENS SHALL BE USED ON THE EDGES & MIDDLE
4. SILVER OAK WOOD OR PINE WOOD SHALL BE USED FOR BATTENS AND THREE BOTTOM RUNNERS
5. M8 ZINC PLATED BOLTS SHALL BE USED FOR FASTENING (100MM - 12NOS FOR BOTTOM, 150MM - 20NOS FOR THE REST)
6. M8 ZINC PLATED WASHERS (2 PER BOLT) AND M8 ZINC PLATED GI NUT (1 PER BOLT) SHALL BE USED
7. ALL JOINTS SHALL BE LAP JOINT
8. 3MM PLYWOOD SHALL BE PLACED BETWEEN THE TOP COVER AND THE BOX
9. WATER-PROOF BITUMEN COATED SHEET AS PER ED0490092 SHALL BE USED BETWEEN THE TOP COVER AND THE 3MM PLYWOOD
10. ALL LABELS & STICKERS SHALL BE FIXED BY STAPLES FOR WOOD

TYPE OF PRODUCT OR
NAME OF CUSTOMER/PROJECT



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ELECTRONICS DIVISION, BANGALORE

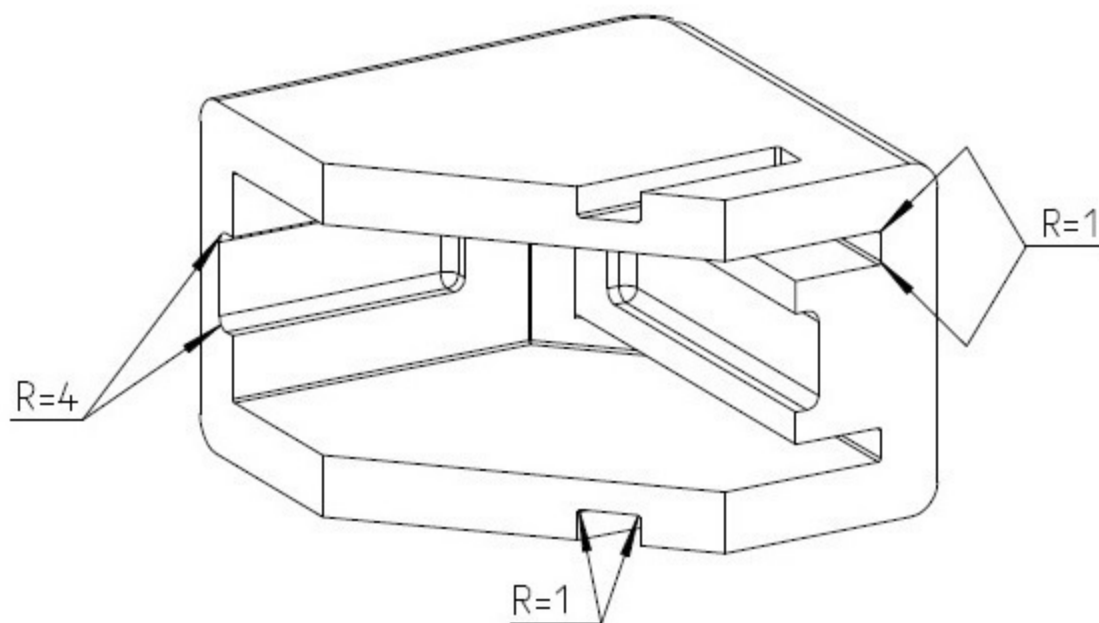
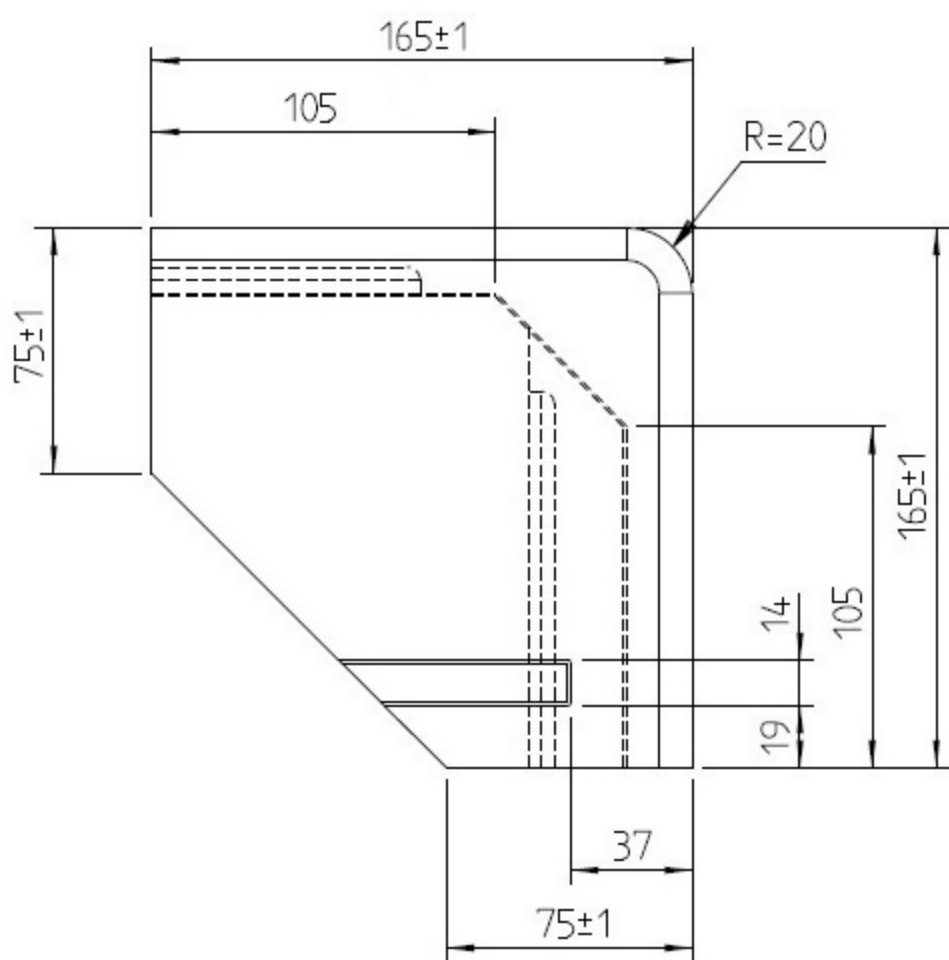
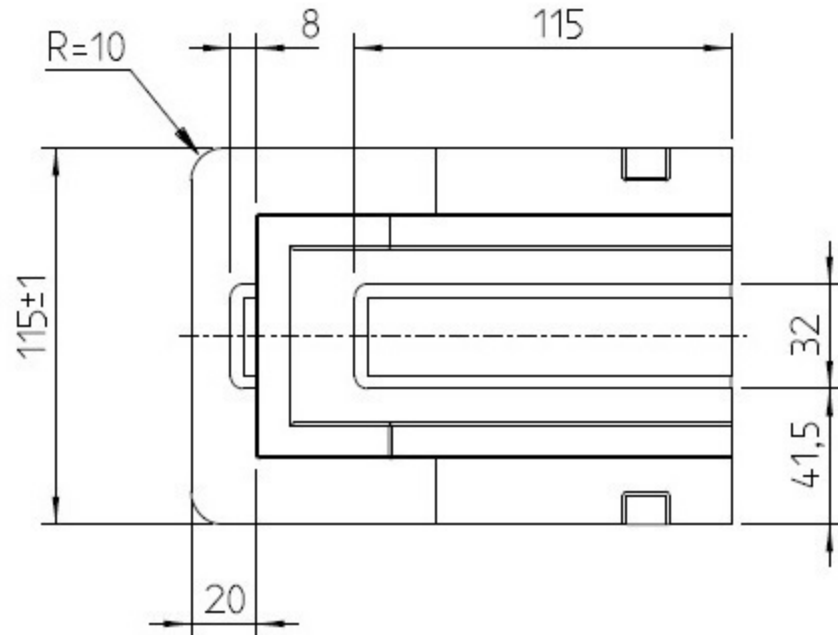
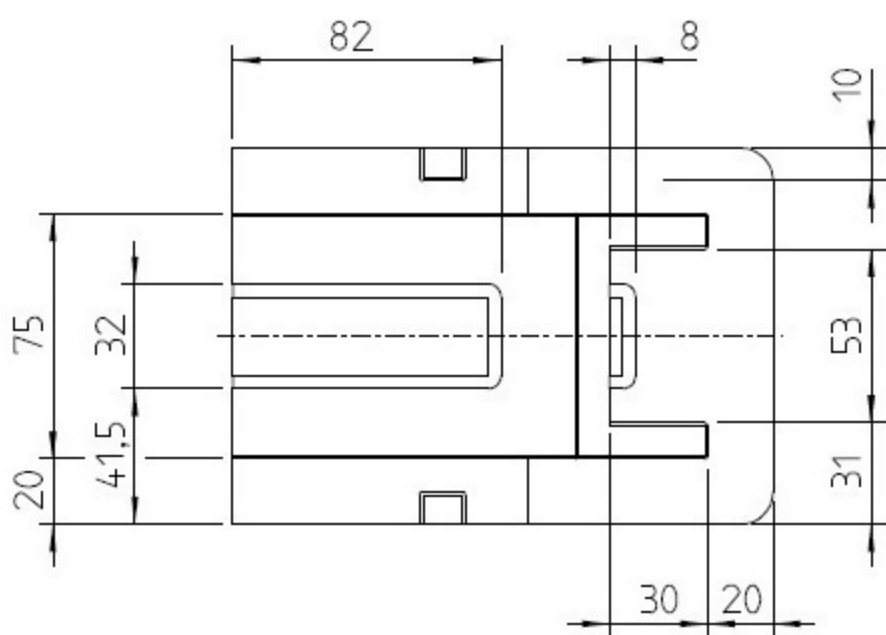
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MGM	Malagi		27.02.13	
CKD			27.02.13	
APPD			27.02.13	

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CODE	442												

TITLE
PLYWOOD BOX FOR PACKING
(THYRISTOR MODULE)

DRAWING NO.
3 672 26 00805
SHEET NO. 01
NO. OF SHEETS 01

REV.	DATE	ALTERED	NS	REV.	DATE	ALTERED	NS	REV.	DATE	ALTERED	NS
03	22.12.17	CHECKED	CGR	02	13.12.13	CHECKED	D D	04	16.01.19	CHECKED	CGR
		APPROVED	CGR			APPROVED	D D			APPROVED	CGR
REVISED & REDRAWN AS PER SHIPPING FEEDBACK				DETAIL 'C' SHOWN AND BOLTS ON TOP INCREASED				3MM PLYWOOD INTRODUCED, TOP COVER MOUNTING REVERSED, BITUMEN SHEET TO BE BETWEEN TOP COVER AND 3MM PLYWOOD TO PREVENT WATER ENTRY INTO THE BOX.			

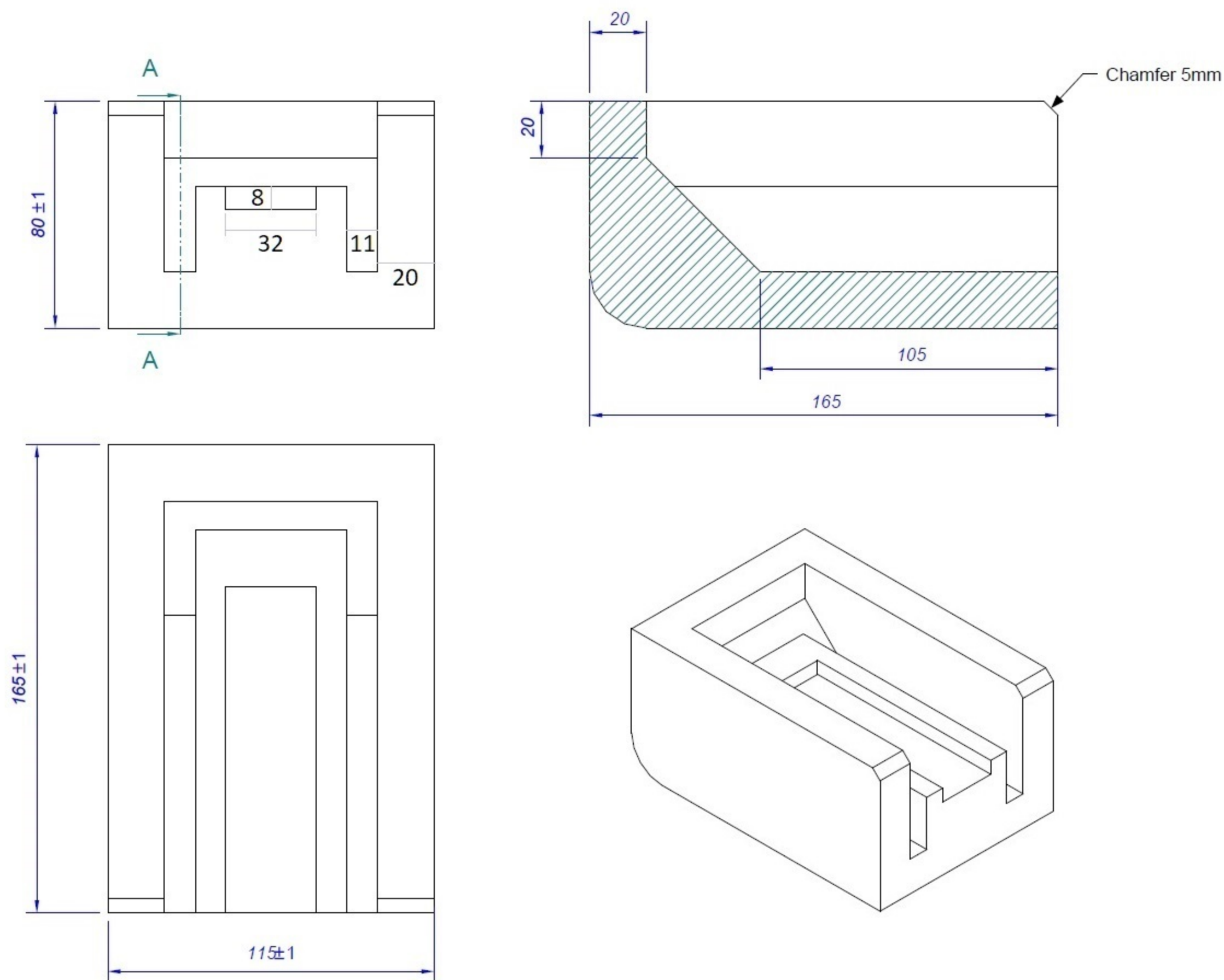


Notes :

- 1) Material : XLPE Foam
- 2) Dimensions : 165x165x115
- 3) Produced by : Milling process
- 4) Density : 60kg/m³
- 5) Colour : Black
- 6) General tolerance: +/- 2 mm

Packing Element for Thyristor Module
Ref : 1JNL100109-267
Rev:00



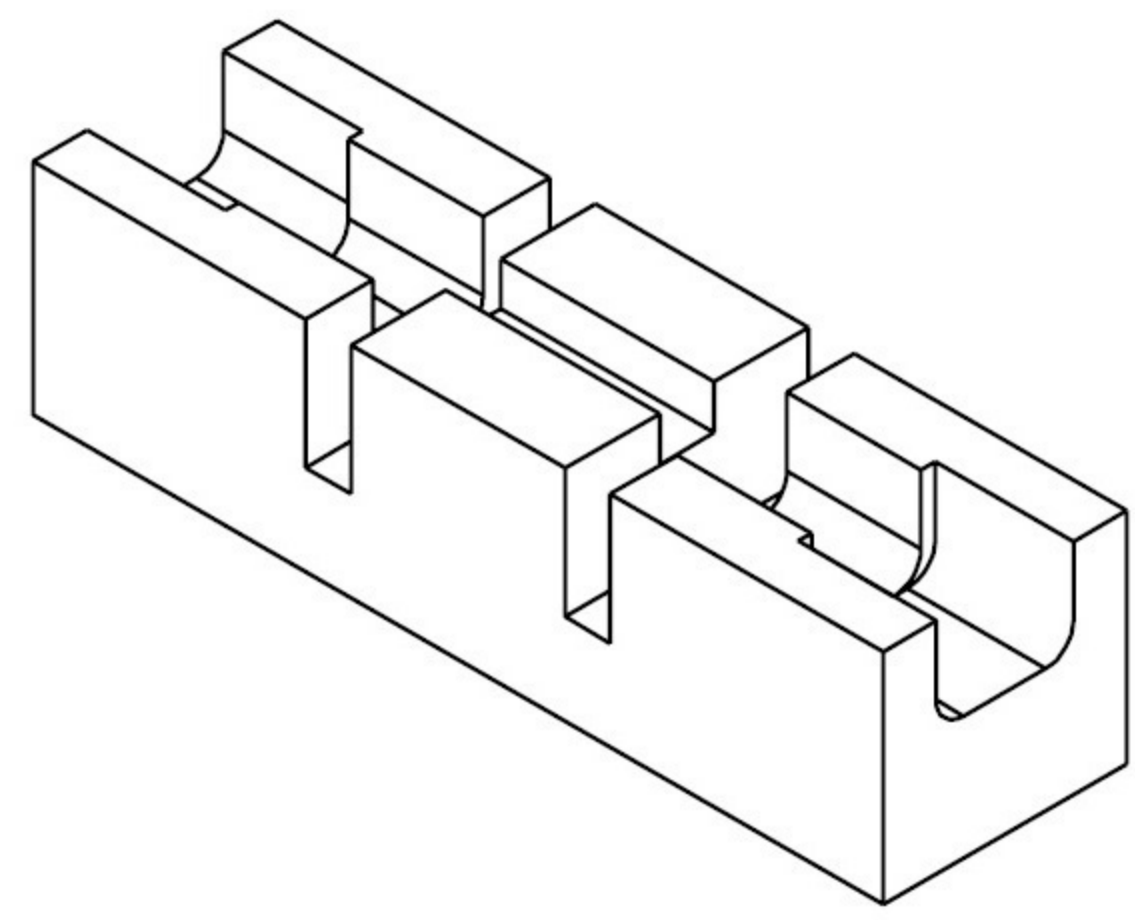
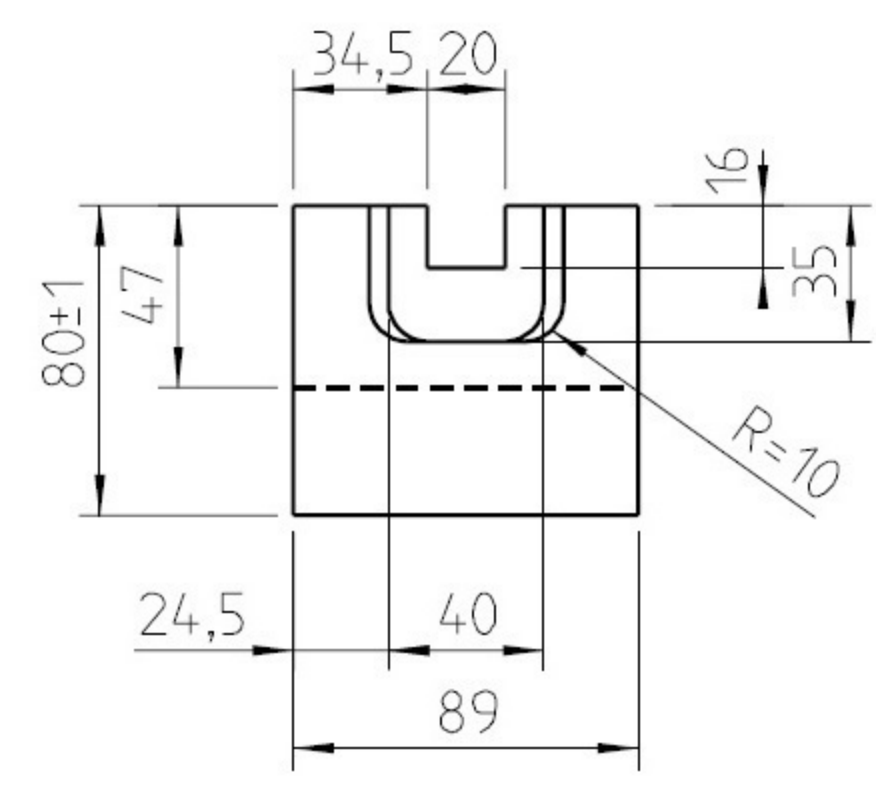
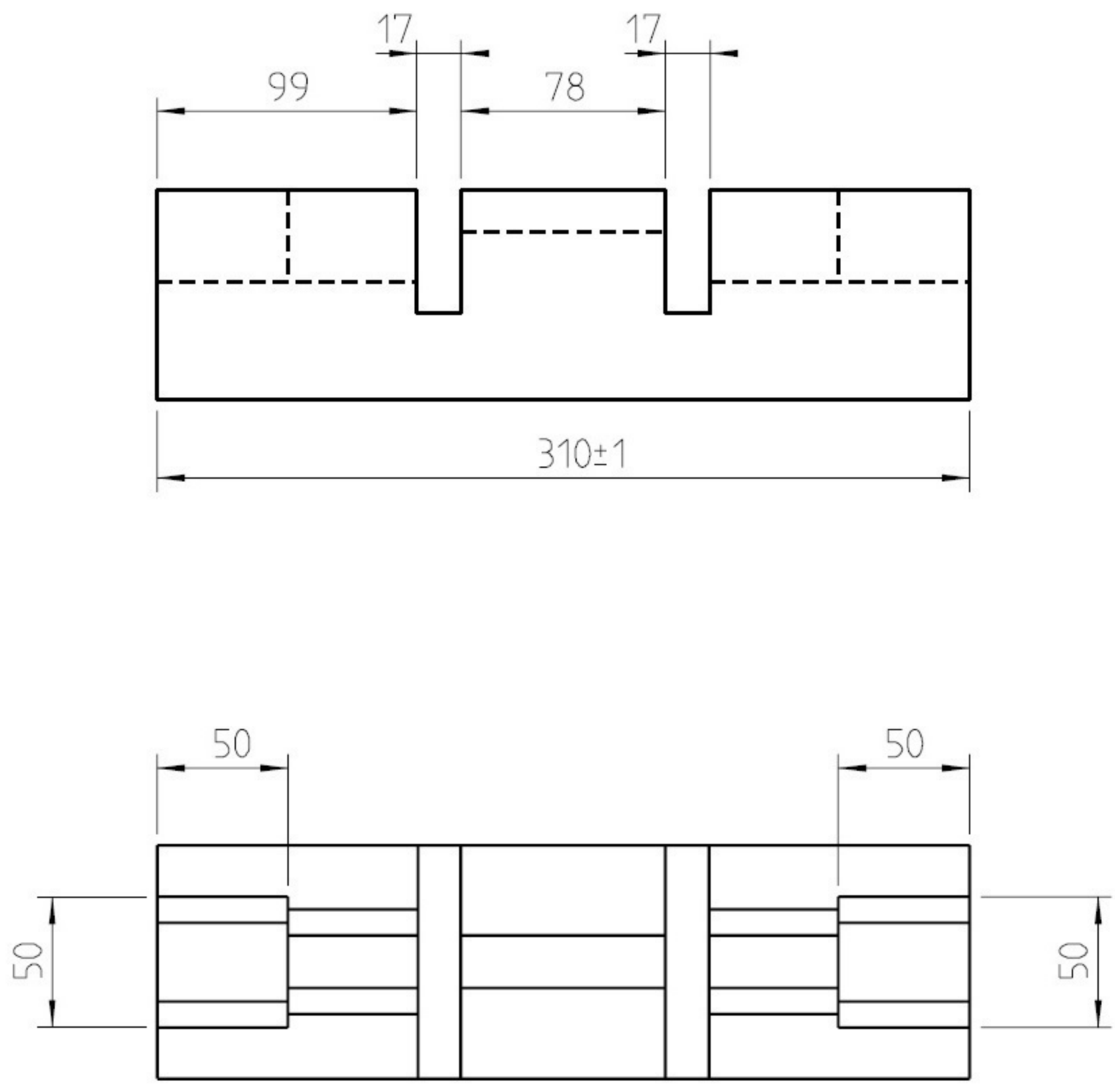


Notes :

- 1) Material : XLPE Foam
- 2) Dimensions : 165x115x80
- 3) Produced by : Milling process
- 4) Density : 60kg/m³
- 5) Colour : Black
- 6) General tolerance: +/-2mm

Packing Element for Thyristor Module
Ref : 1JNL100109-273 Rev:00



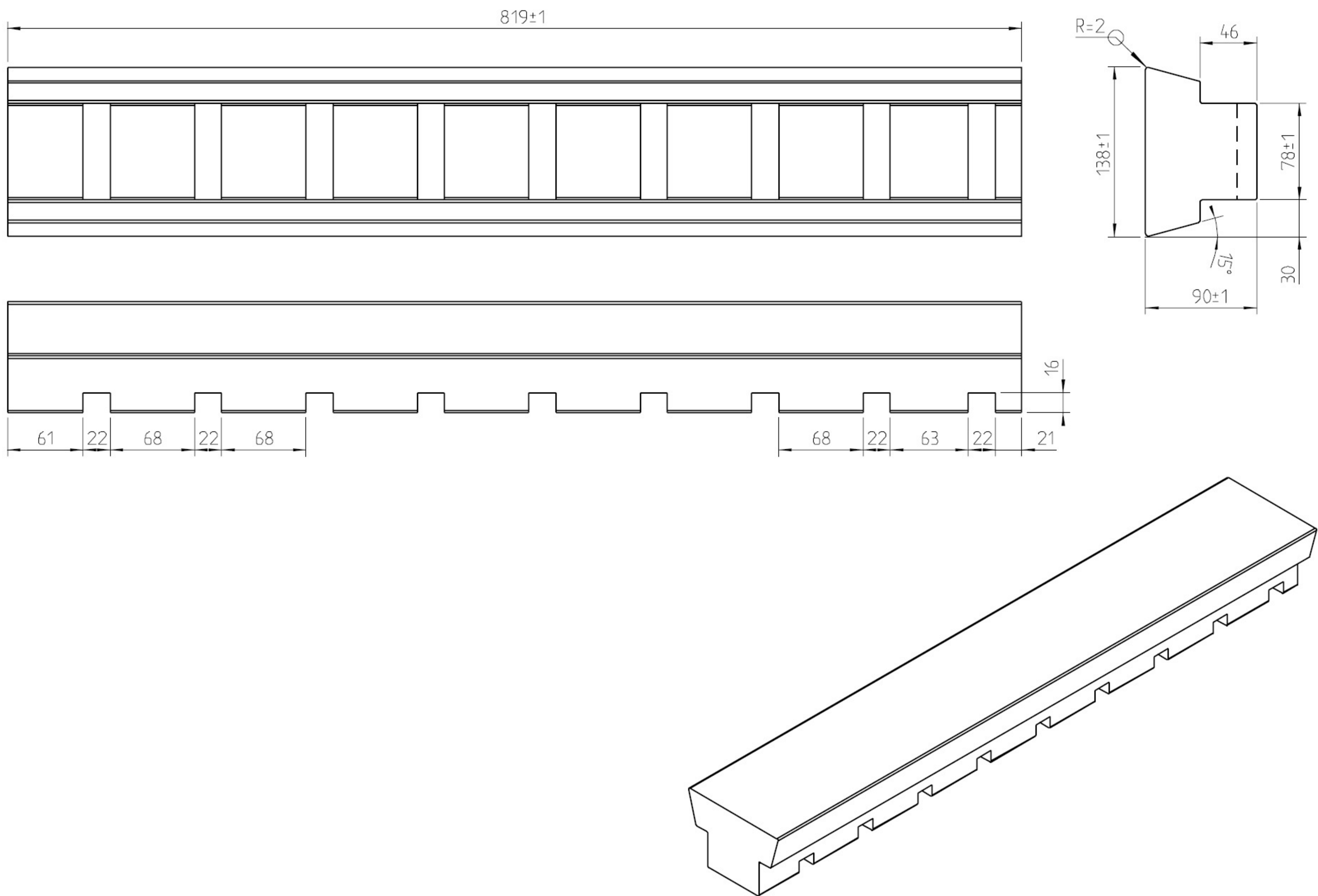


Notes :

- 1) Material : XLPE Foam
- 2) Dimensions : 310x89x80
- 3) Produced by : Milling process
- 4) Density : 60kg/m³
- 5) Colour : Black
- 6) General tolerance: +/- 2 mm

Packing Element for Thyristor Module
Ref : 1JNL100109-275
Rev:00



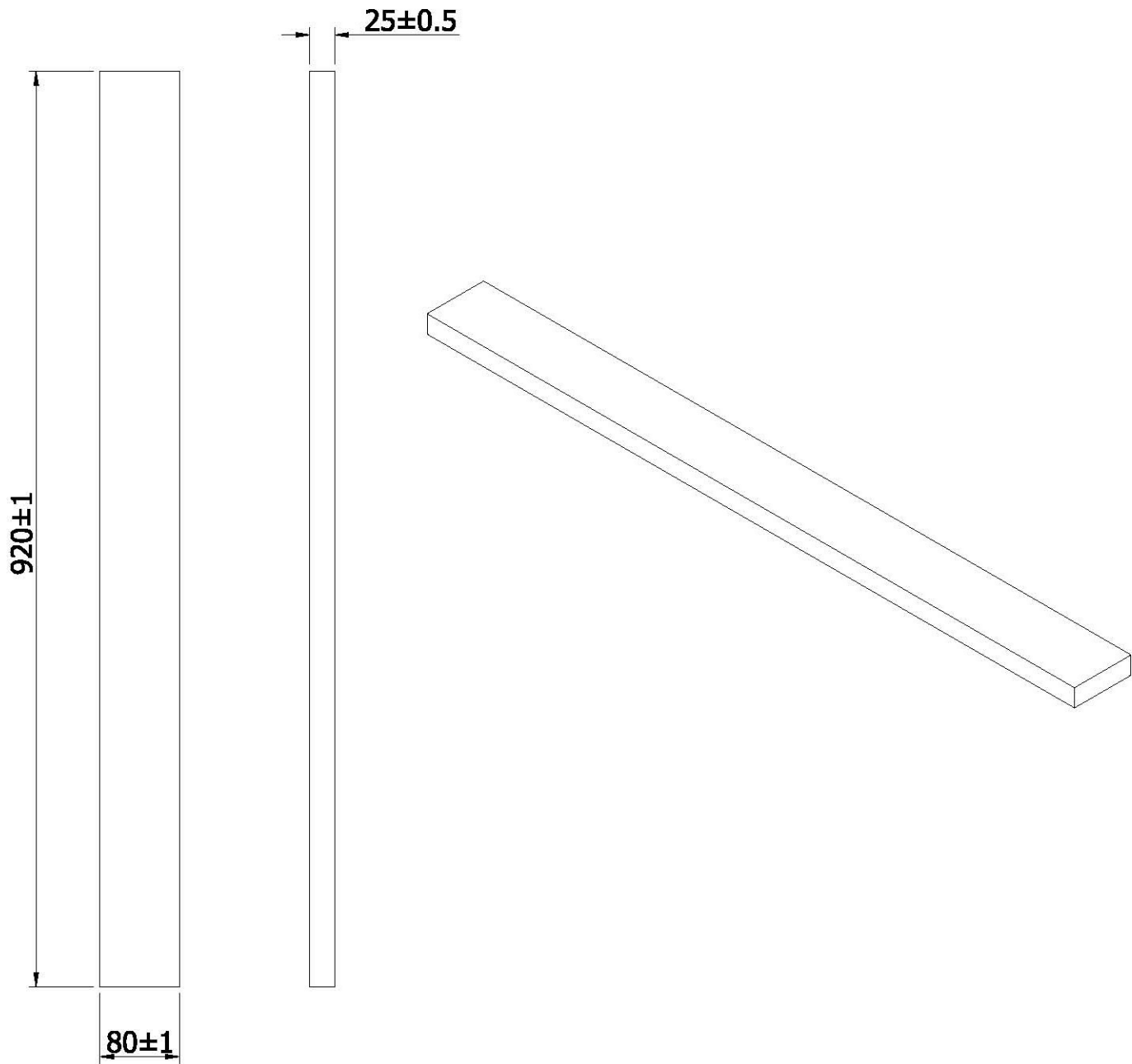


Notes :

- 1) Material : XLPE Foam
- 2) Dimensions : 819x138x90
- 3) Produced by : Milling process
- 4) Density : 35kg/m³
- 5) Colour : Black
- 6) General tolerance: +/-2mm

Packing Element for Thyristor Module
Ref : 1JNL100109-276 Rev:00





Notes :

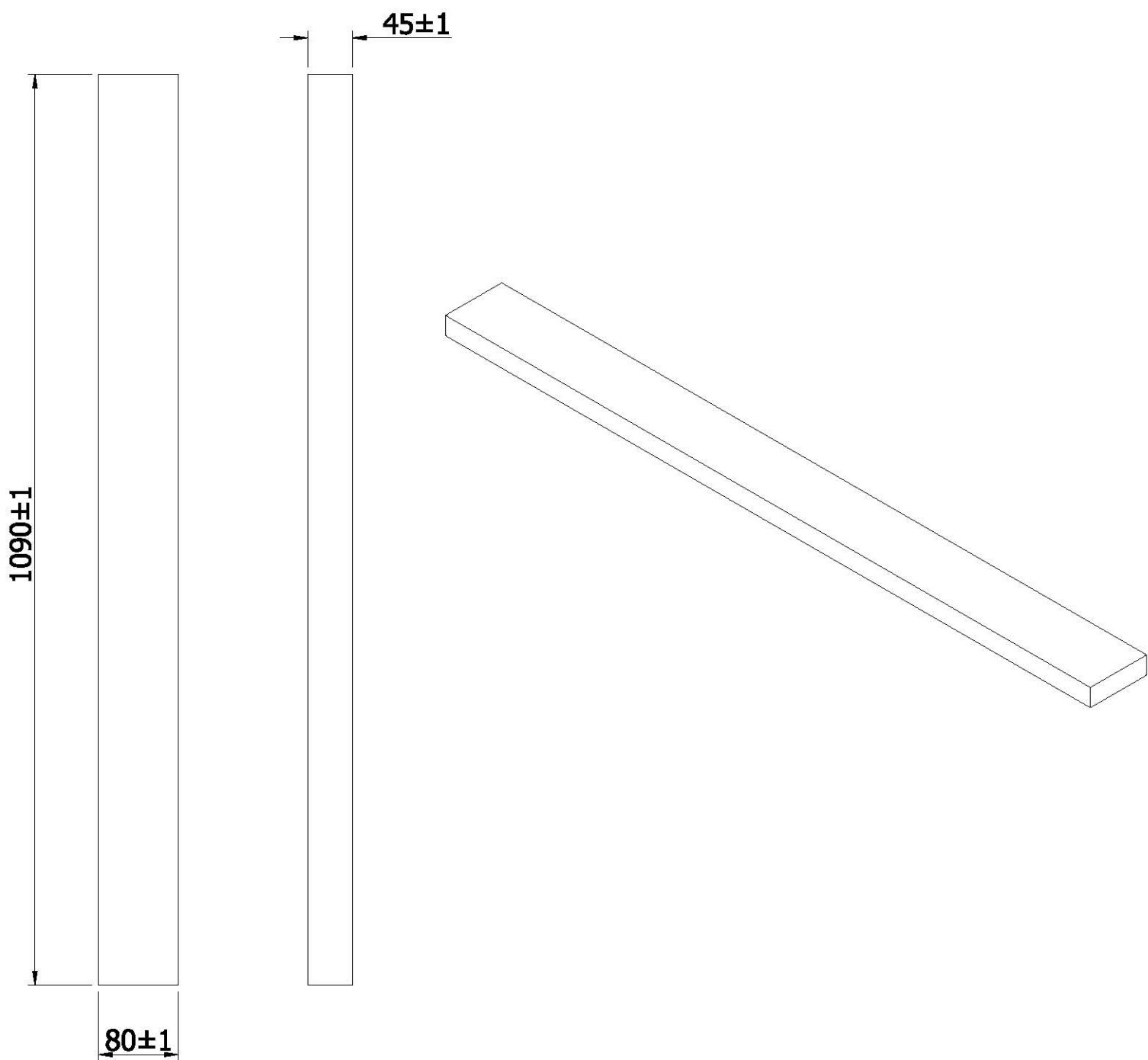
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- 2) Dimensions : 920x80x25
- 3) Density : 35kg/m³
- 4) Colour : Black

Packing Element for Thyristor Module

Ref : 1JNL100109-307

Rev:00





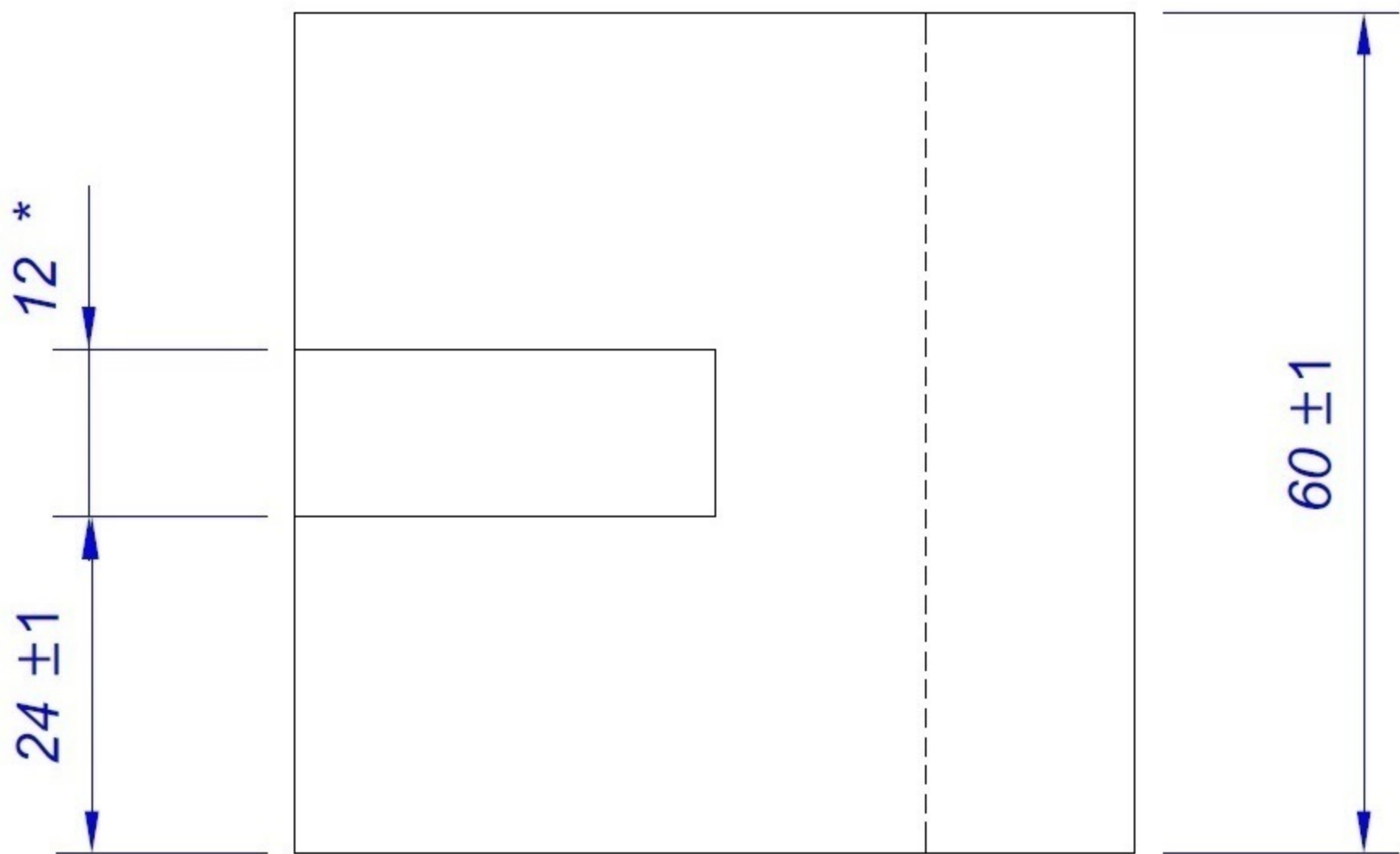
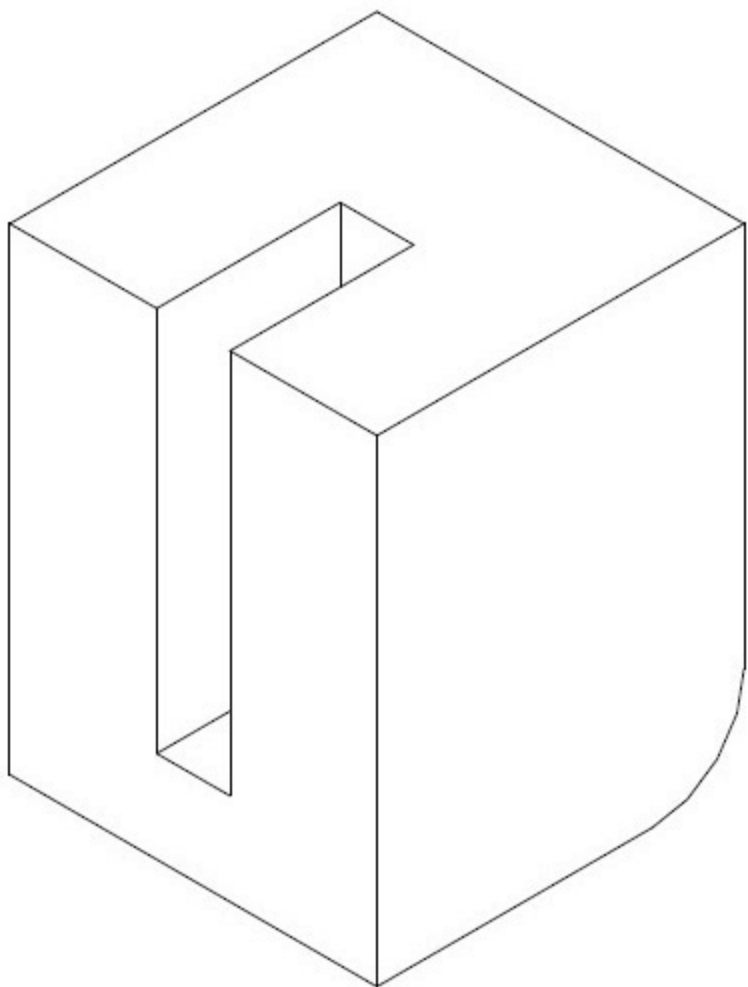
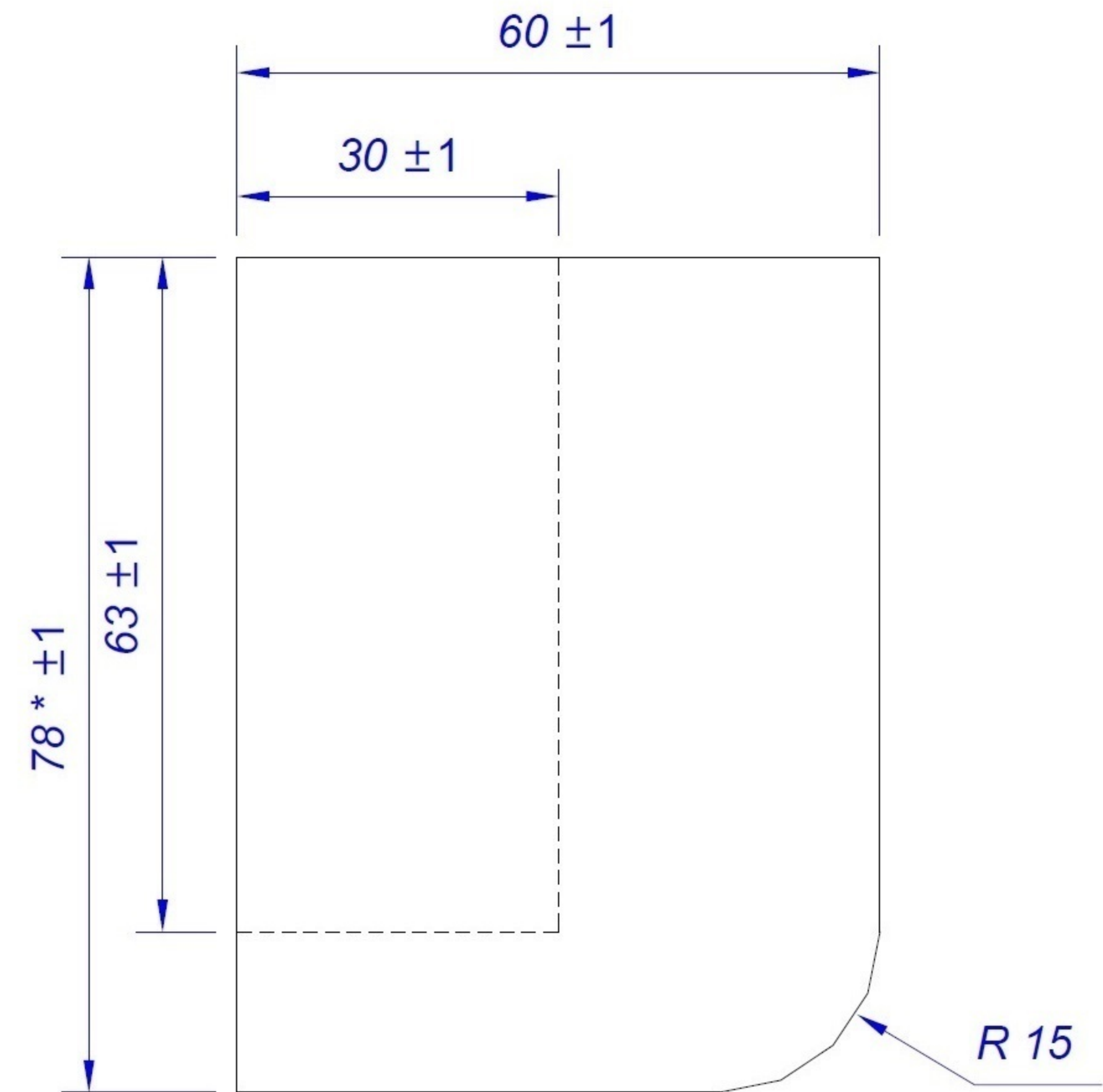
Notes :

- 1) Material : XLPE Foam
- 2) Dimensions : 1090x80x45
- 3) Density : 35kg/m3
- 4) Colour : Black

Packing Element for Thyristor Module
Ref : 1JNL100109-309

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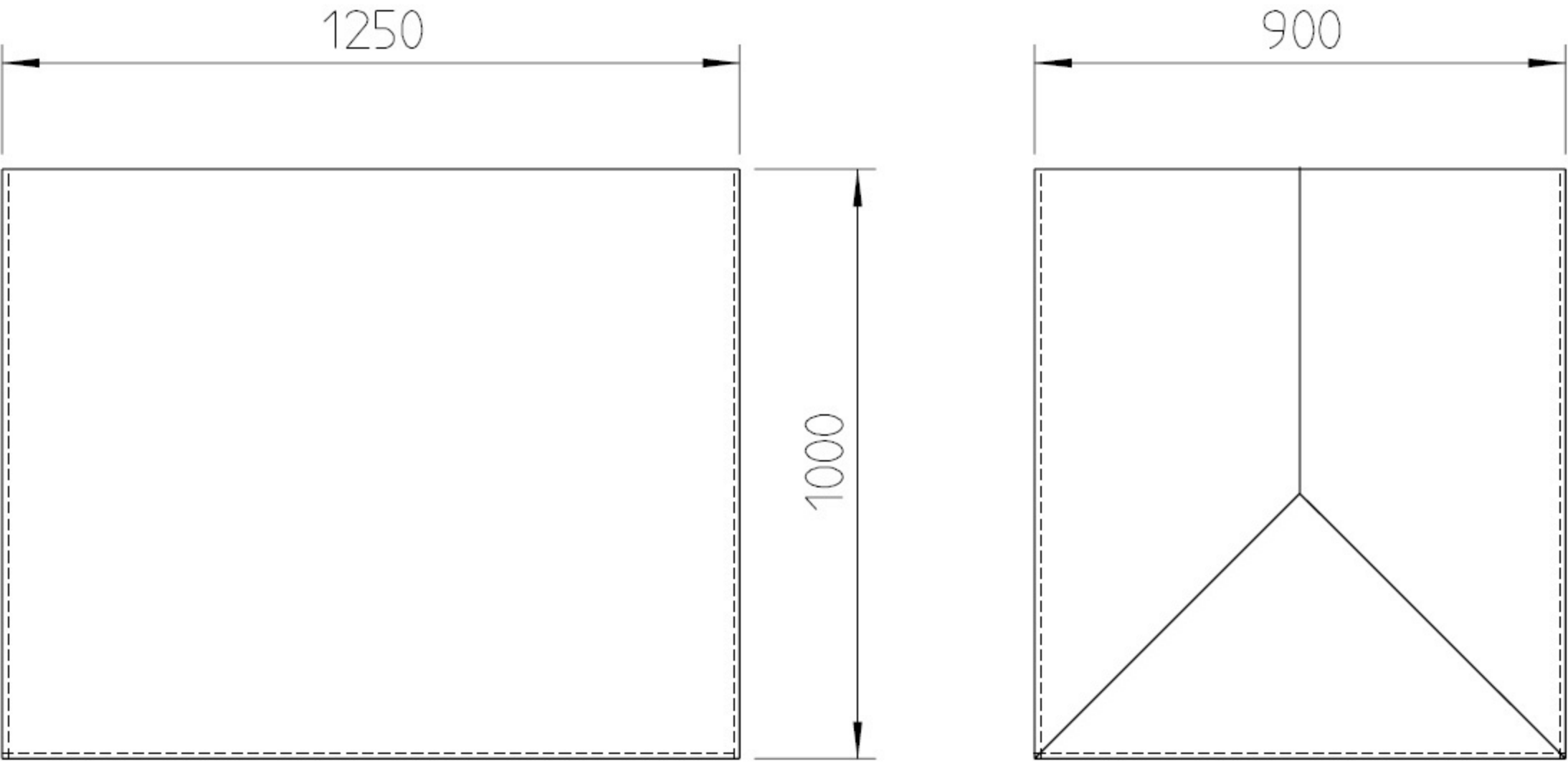




- Notes :
- 1) Material : XLPE Foam
 - 2) Dimensions : 78x60x60
 - 3) Produced by : milling process
 - 4) Density : 60kg/m3
 - 5) Colour : Black
 - 6) * dimensions are critical

Packing Element for Thyristor Module
Ref : 1JNL100033-735 Rev:00





Notes :

- 1) Material : Polyethelene film, Transparent
- 2) Dimensions : 1250x900x1000, Thickness = 0.2

Packing Element for Thyristor Module
(Plastic cover)

Ref : 1JNL100033-741

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REVISION HISTORY SHEET

REV NO.	DATE	NATURE OF CHANGE	REASONS	CHANGED BY	APPROVED BY
00	06/03/92	SUPERCEDES CN43000	-	VS MAS SHG	N.J
01	19/06/93	GENERAL	FEEDBACK FROM QUALITY	SHG	N.J
02	24/06/93	CL 3.4.10	FEEDBACK FROM QUALITY	SHG	N.J
03	01/07/93	SEMICONDUCTOR & PHTOVOLTAIC PANELS ADDED	FEEDBACK FROM DESPATCH	SHG	N.J
04	17/10/94	TOTALLY REVISED	FEEDBACK FROM QUALITY	SHG	N.J
05	08/06/95	ANNEXURE ADDED	FEEDBACK FROM QUALITY & ACCEPTANCE CRITERIA OF WOOD ADDED	SHG	N.J
06	17/11/95	CL 2.5.10 ALTERED	FEEDBACK FROM QUALITY & SHIPPING	SHG	N.J
07	05/03/97	UNDER CL 3.0 & 3.9.1 RPP ADDED ACCEPTANCE CRITERIA REMOVED	FEEDBACK FROM SHIPPING & QC	SHG	N.S
08	29/08/2001	CL 2.2.8 & 4.1 CHANGED	FEEDBACK FROM SHIPPING & QC	SHG	NS
09	15.12.2009	INCLUSION OF PINE WOOD AND SOME CLAUSES HAVE AMENDED	FEEDBACK FROM SHIPPING	PGD / KPN	MSS
10	21.06.2013	Inclusion of recommendations pertaining to spares in page-11&28	Recommendations from Corporate systems & IT	HRN	MSS
11	11.01.2016	CL 2.5.5,2.5.6,2.5.11,2.5.12, 2.5.22 REVISED.	Feedback from shipping and after general review	HRN /EKP	BKD
12	06.03.2018	Clause 2.2.2 changed and 2.2.4 removed	Feedback from shipping	BKD	NV
13	06.06.2018	2.5.22 revised from mm to cm	Feedback from Shipping	BKD	Sathyanarayana
14	14.08.2018	Reference to Corp Std: AA0490009 added	Feedback from CQA	BKD	Sathyanarayana

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APPROVED: Sathyanarayana, AGM (T&PD)

PREPARED: BKD

ISSUED: STD GROUP DATE: 13/08/18

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PROCEDURE FOR PACKING OF CONTROL EQUIPMENTS PRODUCTS USING RUBBER WOOD, SILVER OAK WOOD, PINE WOOD AND CARTONS

1.0 SCOPE: This standard covers the guidelines for packing of Control Equipments, semiconductor devices and Photo voltaic panels/cells.

2.0 MATERIALS:

2.1 WOOD:

2.1.1 INLAND: The wood shall be Rubber wood (*Havea Brasiliensis*) for packing of cubicles, loose items, spares and photovoltaic items meant for customers in India.

2.1.2 EXPORT: Silver Oak (*Grevillea Robusta*) / Pine wood shall be used for packing of cubicles and loose items meant for export.

2.2 DIMENSIONS:

2.2.1 Thickness of planks for Front, rear, top and bottom sides and binding, jointing battens shall be 25 +2/-3 mm.

2.2.2 Width of all planks including the tongue shall be more than 125 mm and after planning it shall be minimum 100 mm.

2.2.3 Minimum number of planks shall be used for a shook.

2.2.4 Horizontal, vertical, diagonal planks shall be given for binding (number of such planks depend on the dimension of panel, as given in Figure-2).

2.2.5 External sides of front and rear planks to be planed to facilitate writing of address and other markings.

2.2.6 Width of binding planks shall be minimum 100 mm.

2.2.7 Distance between any 2 binding planks shall be less than 750 mm. As shown in Fig-3, diagonal planks shall be used in between vertical binding planks when distance between inner to inner of vertical planks is more than 750 mm

2.2.8 Distance of the outer edges of these planks from the edge of case shall be less than 250 mm.

2.2.9 Diagonal planks are not required for top planks and width side also, if the width of pallet is

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less than 750 mm.

2.2.10 Jointing of planks: Single length planks shall be used for cubicles whose overall length is less than 2400 mm. For cubicles of length more than 2400 mm, jointing is permitted. The jointing shall be done with one single or maximum of 2 planks of wood same as other planks of width 250 mm (minimum) with two rows of nails on either side of the joint in zigzag manner. From the joint along height side it shall be of lap joint with over lap of at least the width of plank.

2.2.11 Tongue and Groove joints: Two Consecutive planks shall be joined by tongue and groove joint. Depth of tongue shall be 12 ± 1 mm, thickness of tongue shall be 8 ± 1 mm. The groove dimensions shall be such that the tongue fits tightly into the groove to make a good joint.

2.3 PERMISSIBLE DEFECTS: - Wood shall be free from knots, bows, visible sign of infection and any kind of decay caused by insects, fungus, etc.

End splits: Longest end splits at each end shall be measured and lengths added together. The added length shall not exceed 60 mm per meter run of shook's. Wood pins shall be used to prevent further development of split.

Surface cracks: Surface cracks with a maximum depth of 3 mm are permissible. A continuous crack of any depth all along the length is not allowed.

2.4 .0 CHEMICAL TREATMENTS FOR PRESERVATION OF WOOD:-

2.4.1 This treatment provides protection to the packing wood against deterioration due to fungi and attack by termites, borers and marine organism and any kind of infections.

2.4.2 The wooden planks, after making tongues / grooves shall be treated with chemicals. For pine wood, treatment with ASCU/ CCA solution need not be done.

2.4.3 The chemical used shall be ready mix ASCU paste. This consists of Arsenic pent oxide, copper sulphate sodium dichromate. This Paste shall be mixed at the rate of 1 kg of paste per 10 liters of water to the extent of water used. Alternate this CCA paste as mentioned at Para 2.4.5 can also be used.

2.4.4 The chemical treatment shall be done at the premises of the contractor. A cement concrete tank of capacity to hold a minimum of 2000 liters of solution shall be constructed. The solution shall be prepared in the presence of BHEL- EDN's Representative by contractor. The wooden planks shall be soaked in the solution for a minimum of 12 hours. The solution shall be replenished after treating a maximum of 12 cubic meters of wood. A log book shall be maintained by the contractor to give the details of date of preparation of solution, quantity of solution prepared, quantity of chemicals used, Quantity of wood treated and the details of replenishment. Samples of solutions before mixing will be got tested at the laboratories

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designated by BHEL. The testing fees to be paid to the laboratories will have to be borne by the contractor. The paste shall be tested as and when required.

2.4.5 Specifications for water soluble type wood preservatives: Copper – Chromium – Arsenic [CCA]:

Copper – Chromium – Arsenic preservative formulation shall be as per IS : 10013 Part – II – 1981 shall consist of following active ingredients in nominal proportions by weight as shown below:

Arsenic Pent oxide	AS ₂ O ₅ 2H ₂ O	12.5
Copper Sulphate	CuSO ₄ 5H ₂ O	37.5
Sodium Dichromate	Na ₂ Cr ₂ O ₇ 5H ₂ O	50.0
Potassium Dichromate	K ₂ Cr ₂ O ₇	

2.5 OTHER MATERIALS:

2.5.1 NAILS: The dia. of the nails shall be 3.15 mm. The length of the nails shall be 65 mm wherever two planks of 25 mm thickness are joined and 75 mm wherever a 25 mm planks is joined to a 50 mm plank.

2.5.2 BLUE NAILS: These are used for nailing bituminized Kraft paper/hessian cloth to the planks. The length of the nails shall be 16 mm.

2.5.3 HOOP IRON STRIPS: These are used for strapping the boxes. The width of the strips shall be 19±1 mm and thickness 0.6 ±0.01 mm. The material shall be free from rust.

2.5.4 CLIPS: These shall be used for strapping the hoop iron strips on the boxes.

2.5.5 BRACKETS: These brackets are used for nailing to the corners of cubicle boxes. The brackets shall be of mild steel of thickness min 2 mm and width 25±1 mm. The brackets shall be of "L" shape, the length of each side being 100±2 mm. Two holes shall be provided towards the end of each side for screwing /nailing.

2.5.6 FASTENERS: Bolts, double nuts, spring washers will have to be used for packing of some special items like transformers, reactors, breakers, etc., to hold the job to the bottom plank of the box. The bolts, nuts, washers will be provided by the vendor. Drilling of holes will have to be done using contractor's tools.

2.5.7 POLYETHYLENE SHEET: The polyethylene sheets are used to make covers to the jobs individually. The material shall have a thickness of 0.175 mm (175 microns). The polyethylene sheet shall be clear and transparent.

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2.5.8 BITUMINISED WATER PROOF KRAFT PAPER: This is used for lining the inside of shoots of cubicles.

2.5.9 BITUMEN COATED HESSIAN POLYETHYLENE KRAFT PAPER: This is used for lining the inside of top planks of cubicles and for lining of all inner sides of boxes.

2.5.10 RUBBERISED COIR: The rubberized coir is used as cushioning material. For the packing of loose items, items are to be arrested by using rubberized coir. For the packing of cubicles rubberized coir of thickness 25mm and width 75mm shall be used.

2.5.11 FOAM RUBBER / 'U' FOAM: This is used for covering the delicate items. This material is provided by the vendor.

2.5.12 THERMOCOL (EXPANDED POLYSTYERENE) SHEETS): This is used for covering delicate items. This material shall be provided by the vendor.

2.5.13 MARKING PLATE: This shall be of anodized aluminum sheet. Details and specifications are given in Fig-5.

2.5.14 PACKING SLIP HOLDER: This shall be of galvanized iron /tinned

2.5.15 SILICA GEL: This shall be of indicating type to conform to IS:3401/AA55619

2.5.16 COTTON BAGS: These are used for holding silica gel. The bags shall have the following matter indicated them:

BHEL-EDN, BANGALORE - 5 60 026

SILICA GEL INDICATING TYPE

BLUE : ACTIVE

ROSE : REDUCED ACTIVITY

WHITE : NO ACTIVITY. TO BE REPLACED WITH FRESH SILICA GEL

2.5.17 COTTON/ PLASTIC TAPE: This is used for tying small items. And also to prevent vibrations of moving parts within the cubicles.

2.5.18 MARKING INK: The ink used normally is black in color. In some special cases other color also will have to be used. The ink shall be non-fading/indelible and non-washable by water.

2.5.19 POLYETHYLENE BAGS: These are to be used for keeping the, Packing slips. The bag shall be of size 70 mm X 100 mm (minimum)

2.5.20 Hessian cloth, twine thread, paint will have to be used in packing certain items.

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2.5.21 Mechanical Latching clamps: For CLW Railway panels and similar Panels self locking clamps can also be used on need basis in conjunction with or apart from regular bolt and nut fixing arrangement. [Refer Drawing Fig-7]. For reusable boxes, these clamps provide easy locking and unlocking arrangement. These clamps will be made available from BHEL in some cases.

2.5.22 STICKERS The following stickers to be put by the vendor on cubicles/Boxes after packing.
1. Case No sticker : 2 nos. Size 25 cm X 4.5 cm 2. BHEL Monogram sticker : 1 no . Size 17.5 cm X 23 cm 3. Address sticker : 2 nos. Size 38 cm X 30 cm 4. Direction sticker " Front " & " Back " - 4 nos .Size 20 cm X 7.5 cm 5. Chain Mark Sticker : 4 Nos. Size - 30 cm X 7.5 cm 6. "Fragile " sticker : 2 Nos Size. 21cm X 15 cm 7. "DO NOT STACK " sticker - 2 Nos. Size 30 cm 22 cm

3.0 PACKING SPECIFICATIONS: Different types of packing are used as follows:

- 1) Packing of cubicles with rubber wood.
- 2) Packing of cubicles with Silver Oak wood / Pine wood
- 3) Packing of empty cubicles with rubber wood.
- 4) Packing of loose items/spares with rubber wood.
- 5) Packing of loose items /spares with Silver Oak wood.
- 6) Packing of Photo-voltaic items with rubber wood.
- 7) Packing using bitumen coated hessian polyethylene Kraft papers.
- 8) Supply of rubber wood pallets for empty cubicles.
- 9) Packing of semiconductor panels.
- 10) Packing of material covered under category of RPP (Registered Postal Parcel)
- 11] Packing of materials using PVC [sunspace] / corrugated Kraft paper cartons.
- 12] Packing of materials using heavy duty cartons

3.1 PACKING OF CUBICLES WITH RUBBER WOOD:

3.1.1 The packing is to be done as per clause 2.0 in all respects.

3.1.2 The cubicles are already fixed on wooden pallets. Hence the contractor need not arrange the bottom pallets normally.

3.1.3 The cubicles will be of different sizes both widthwise and lengthwise. The cubicles may be made up of single suite, 2 Suite, 3 Suite, 4 Suite, etc., The width of the cubicles generally varies from 400 mm to 1650mm. The length of the cubicle, generally varies from 1500 mm to 4800 mm. The height is normally 2430 mm. In some cases the height may be less/more.

3.1.4 BITUMINISED WATER PROOF KRAFT PAPER: The inner surface of 4 sides of shook's shall be nailed with Bituminized water proof Kraft paper (as per 2.5.8) using blue nails (as per 2.5.2) wherever 2 pieces of Kraft paper are used, the joint shall have an overlap of minimum 20 mm

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3.1.5 BITUMEN COATED HESSIAN POLYETHYLENE KRAFT PAPER: The inner surface of top cover shall be nailed with Bitumen coated Hessian polyethylene Kraft paper (as in 2.5.9). This sheet shall project outside on 4 sides by at least 100 mm and shall be nailed properly on sides. Joining of sheets should have overlap of minimum 20 mm.

3.1.6 POLYETHYLENE SHEET COVERING: The cubicles shall be covered with a polyethylene petticoat (Polyethylene sheet as per 2.5.7). This shall be 'tailor made' to fit the cubicle. The sealing shall be such as not to allow any moisture to enter the cubicle.

3.1.7 SILICA GEL: Silica gel (as per 2.5.15) packed in cotton bags shall be kept at different places inside the cubicle as per EDN directions. The quantity of Silica Gel shall not be less than 1kg/1000 litre [per cubicle metre] volume of the packing box

3.1.8 LOOSE PARTS: Any loose parts in the cubicles shall be tied using cotton/ plastic tape. Wooden battens shall be provided wherever necessary.

3.1.9 WOODEN BATTENS: In case of cubicle which are not rectangular in shape like control desks, sufficient number of wooden rafters/battens of proper size shall be provided to give strength to the package.

3.1.10 RUBBERISED COIR: Gap between the cubicle and the case shall be filled with rubberized coir (as per 2.5.10) with distance between consecutive layers less than 500 mm.

3.1.11 CLAMPING: Packing shall be bound at edges by nailing M.S.clamps / Brackets (as per 2.5.5). Each vertical edge shall have minimum 3 clamps. Top horizontal edges will have one clamp for every meter length of package. However, minimum 4 clamps shall be nailed at the top for any cubicle.

3.1.12 PACKING SLIP: Packing slip kept in the polyethylene bag (As per 2.5.19) shall be placed in the box at appropriate place. In addition, one more packing slip covered in polyethylene cover and packing slip holder (as per 2.5.14) shall be nailed to front / rear of case.

3.1.13 MARKING PLATE: One no. (As per 2.5.13) shall be nailed to the front side of the case.

3.1.14 CASE MOUNTING: After complete packing, stencil marking of various details and marking of symbols shall be done as per BHEL instructions using indelible / non washable marking ink.

3.2 PACKING OF CUBICLES WITH SILVER OAK / PINE WOOD: Packing of cubicles for export shall be done exactly in same manner as described at 3.1 except for the following changes: -

Wood shall be Silver oak/ Pine wood instead of rubber wood.

- Double polyethylene petticoat instead of one.

- Fumigation may have to be done if required (BHEL Scope).

Treatment of wood to be as per ISPM-15

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3.3 Different types of Cubicles with sizes for Packing

SL TYPE OF CUBICLE VARIANT DIMENSIONS [Internal sizes]

01 Single suite cubicle	- 900 x 950 x2500
02 Two suite cubicle	- 1650 x 950 x 2500
03. Three suite cubicle	- 2400 x 950 x2500
04. Four suite cubicle	- 3150 x 950 x 2500
05. Regulation cub	- 1300 x 1350 x 2500
06. Thy cub	- 2870 x 1350 x 2500
07. VFD Cub	- 3800 x 1550 x 2500

3.4 PACKING OF LOOSE ITEMS/SPARES USING RUBBER WOOD:

3.4.1 Shape of cases shall be square, rectangular with single gabled roof or with double gabled roof depending on the nature of the job to be packed. Construction shall be as per drawings enclosed. Only gable will be additional as required.

3.4.2 Wood shall be rubber wood with Tongue and Groove joint as per clause 2.2.12.

3.4.3 Chemical treatment as per clause 2.4 to be done.

3.4.4 Width of planks shall be at least 100 mm. Width of binding planks (battens) shall be at least 75mm.

3.4.5 External surface of planks on front and rear shall planed 100% (except bottom plank).

3.4.6 Inner surfaces of all 6 sides shall be lined with bitumen coated hessian polyethylene Kraft paper (as per clause 2.5.9) using blue nails.

3.4.7 Rubberized coir of minimum 25mm thickness and 100 mm width shall be nailed to inner surfaces of bottom and 4 sides of box.

3.4.8 Internal packing: Items that go into the box shall be packed using polyethylene sheet/ U foam/ thermocol sheets/ air bubbled sheets/ paper cartoons and cotton tape. Any space left. Between the job and the sides and the top of the box shall be filled with rubberized coir to get proper cushioning effect.

3.4.9 Certain items like transformers, reactors, breakers, etc., shall be bolted to the bottom of the box using bolts, nuts and washers.

3.4.10 Silica gel as per clause 2.5.15 held in cotton bags as per clause 2.5.16 shall be kept at proper places in the box.

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SL NO	BOX INNER DIMENSIONS (mm)	VOLUME (liters)	Minimum QUANTITY OF SILICA GEL (grams)
1	300X300X300	27	27
2	400X400X400	64	64
3	500X500X400	125	125
4	600X600X400	144	144
5	700X700X400	196	196
6	770X770X500	297	297

3.4.11. Packing slip kept in polyethylene bag (clause 2.5.19) shall be placed in the box.

3.4.12. Marking plate as per clause 2.5.13 shall be nailed to side of the box.

3.4.13. Two numbers of hoop iron strips as per clause 2.5.3 shall be strapped tightly on the case using clips.

3.4.14. Stencil marking of various details and marking of various symbols shall be done as per BHEL instructions using indelible/non-washable marking ink.

3.4.15 Loose items to be kept inside the cubicle

- The components which are removed from cubicle for shipping purpose only, such as meters shall be kept inside the cubicle individually kept in wooden box and tied firmly in bottom of Cubicle.
- Other items which are given loose in addition to cubicle shall be packed in separate boxes (like cables).
- For transformer cubicles loose items shall be packed in separate boxes and these boxes may be tied firmly in bottom of cubicles.
- Items which are bigger in size such as impulse tubes may be kept in top of cubicles firmly bunched and tied.

3.5. PACKING OF LOOSE ITEMS USING SILVER OAK / PINE WOOD: Packing of loose items for export shall be done in same manner as at clause.3.4 . except for the following changes:

- Wood shall be Silver oak/ Pine wood instead of rubber wood.
- Fumigation may have to be done. 86
- 2 polyethylene covers to be provided.

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3.6 PACKING OF PHOTO VOLTAIC PANELS, ETC.USING RUBBER WOOD:

Same as 3.4 above except for the following changes:

- Wood need not be treated with chemical solution.
- Tongue and groove jointing is not required. But planks shall be so joined as to not leave any gap at the joint. Bituminized Kraft paper and Bituminized Kraft sheet need not be used.
- Silica gel need not be used.
- Treatment of wood as per ISPM-15

3.7 PACKING USING BITUMEN COATED HESSIAN POLYETHYLENE KRAFT PAPER:

3.7.1. This method is adopted for packing of poles, frames, Empty boxes, etc.

3.7.2. Job shall be covered and stitched tightly with bitumen coated hessian polyethylene Kraft paper.

3.7.3. Marking has to be done as mentioned in CL 3.4.14.

3.8 SUPPLY OF RUBBER WOOD PALLETS FOR EMPTY CUBICLES:

3.8.1. The wood shall be rubber wood.

3.8.2. Thickness of planks shall be 25 $\pm$ 2 mm. The size of the supporting battens at bottom shall be 75 $\pm$ 2 mm (width) and 100 $\pm$ 2 mm (height).

3.8.3. If the width of the pallet is 1000 mm or less, only 2 supporting battens at the edges may be provided. In case of pallets having width of more than 1000 mm, one extra supporting batten shall be provided in the middle.

3.8.4. Jointing of top planks is not permitted for pallets of width less than 1000mm. For pallets of width more than 1000 mm, jointing of top plank is permitted. However, joint shall be at the center of the supporting batten.

3.8.5 The consecutive top planks shall be so nailed as to leave no gap. Tongue and groove joint is not required.

3.9 PACKING OF SEMICONDUCTOR DEVICES

Semiconductor devices shall be received in prepackaged condition as per the device type and packed in plywood boxes as per the following procedure,

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- Stack the preplaced devices inside the case.
- Fill up gaps with thermocol sheets/rubberized coir.
- Close the top cover and nail.
- Provide suitable marking of the package details.

3.9.1 Packing of material for Registered Post Parcel (RPP) RPP packing boxes to be made in-house with 12mm (for sides) and 6mm thick (for top and bottom) commercial quality ply wood sheet. The size of the box should be decided on the material to be dispatched. Between material 10mm and 15mm thick thermocol sheets or rubberized coir/foam should be provided as cushion.

3.9.2. Packing of materials using sunpac cartons and corrugated Kraft paper cartons: Individual items can be packed using sunpac or polypropylene [PVC]/ corrugated Kraft paper cartons of suitable sizes and grammage depending upon the items to be packed. Heavy duty cartons can also be used for packing of loose items, manuals, repaired items and others.

3.9.3. Packing of materials using Heavy duty cartons: Panels can also be packed using Heavy duty carton with other required packing materials having 2000gsm corrugated board of 7 ply 15 thick. Loose items and spares can be packed using 5ply 2000gsm corrugated heavy board with other packing materials. Different sizes of cartons are required depending upon the sizes of the items being packed. Details are separately given.

4.0 ADDITIONAL POINTS TO BE FOLLOWED FOR EXPORT ORDER SEAWORTHY PACKING:

- 4.1 Packing to be done as per Fig - 6.
Thickness of G.I.sheet 0.3 mm. plus or minus 0.05 [0.3-0.05]
- Treatment of wood as per ISPM-15

5.0 Procedure for handling of Components

5.1 Procedure for handling of components shall be as per Clause 12 (procedure for handling of components) of the Corporate Standard for Export Packing (AA0490009)

5.2 Marking shall be as per clause 11 (Marking) of the Corporate Standard for Export Packing (AA0490009)

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Additional points to be taken care for :

Easy spares [Initial and O&M] Traceability and Identification at units and as well as at sites:

(Recommendations from Corporate Systems & IT)

Sl	Activity
1	All Initial and O&M spares preferably supplied in one lot to site and progressive inventory till all spares are accumulated could be kept at units.
2	Spares (Initial and O&M) should be supplied in separate Boxes / Containers and not mixed in main supply boxes.
3	i) Initial spares Box / Container to be labeled as "INITIAL SPARES " in RED. Ref fig: 14 (Page-26). ii) O & M spares Box /Container to be labeled as" O&M SPARES " in GREEN. Ref fig: 14 (Page-26).
4	iii) Initial Spares Box to have red Color strip as per diagram. Ref fig: 14 (Page-26). iv) Majority of spares (initial and O&M) are for indoor storage at site. v) O&M spares box to have green Color strip as per diagram. Ref fig: 14 (Page-26).
5	vi) Spares (Initial and O&M) Packing list kept inside the boxes and affixed securely outside the box to contain vii) Custom name viii) Project / Power station Name ix) Customer PO No and date x) Sl no of customer PO. xi) Quantity total & dispatched. xii) Unit work order number xiii) All above to be developed from Unit IT System
6	xiv) All spares (Initial and O&M) items to have tags (wono, item customer order no, customer item.description)

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7	xv) Supply of spares by Vendor should also be instructed for following point 2,3,4,5,6 mentioned above.
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Action By : Sites on arrival of spares (Initial and O&M)Receipt .

	Activity
1	Material utilized if any from Initial and O&M spares , should have prior written approval of concerned MUs. Such MUs shall also confirm replacement dates which should be entered in the system for creation of repository.

6.0 DETAILS OF DRAWINGS/FIGURES ENCLOSED

FIG-1: Details Of Cubicle Packing Box

FIG-2: Binding Of Panel

FIG-3: Lifting Of Packed Case

NOTE: 1) Spreaders are to be used only for lifting the case.

2) Spreaders are wooden items & not nailed to the case.

3) Height between crane hook & spreaders to be kept Minimum to void rotation of case while lifting.

FIG-4: Lifting And Moving Un Packed Case

FIG-5: Marking Plate

FIG-6: Closed Packing Case With G.I. Sheet Showing Layers Of Packing Materials.

FIG-7: Mechanical Latching Clamp

FIG-8 to 15 : Sample Packing drawing of single/ double / triple & four suit panel



PLANT STANDARD

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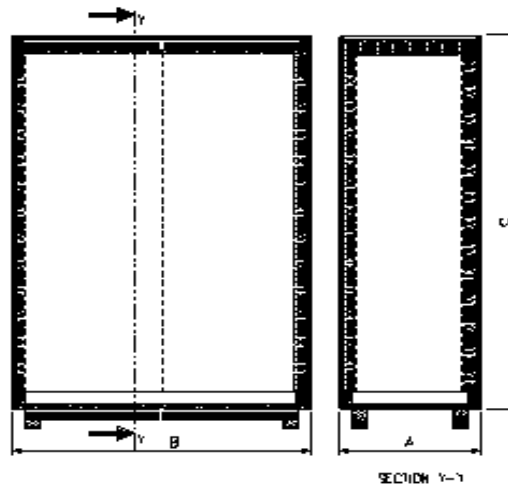
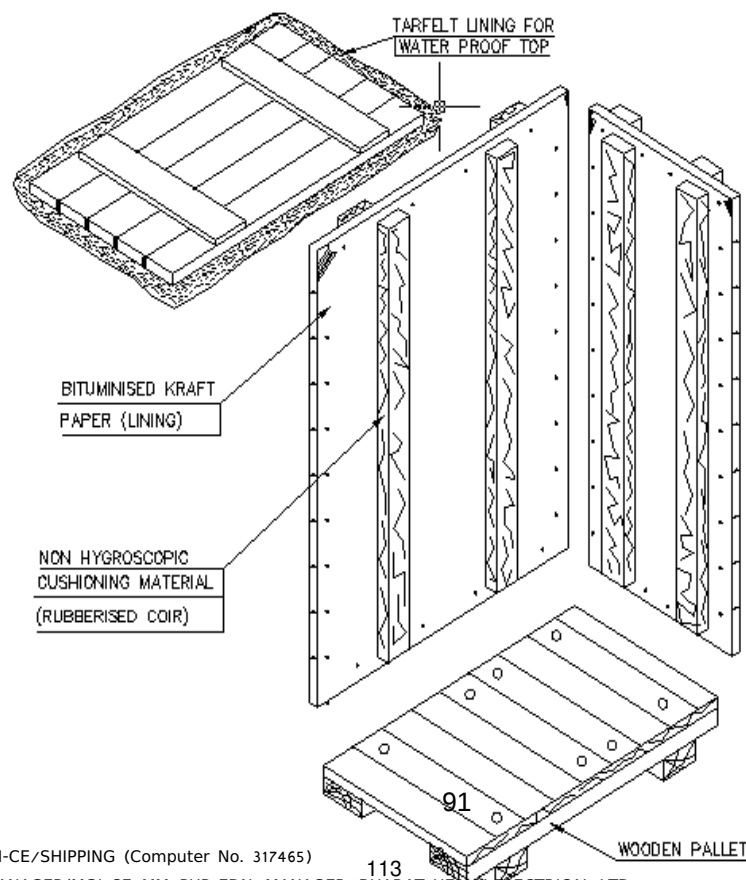


FIG-1 : DETAILS OF CUBE PACKING BOX.



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Fig. 2 : Binding of Panel

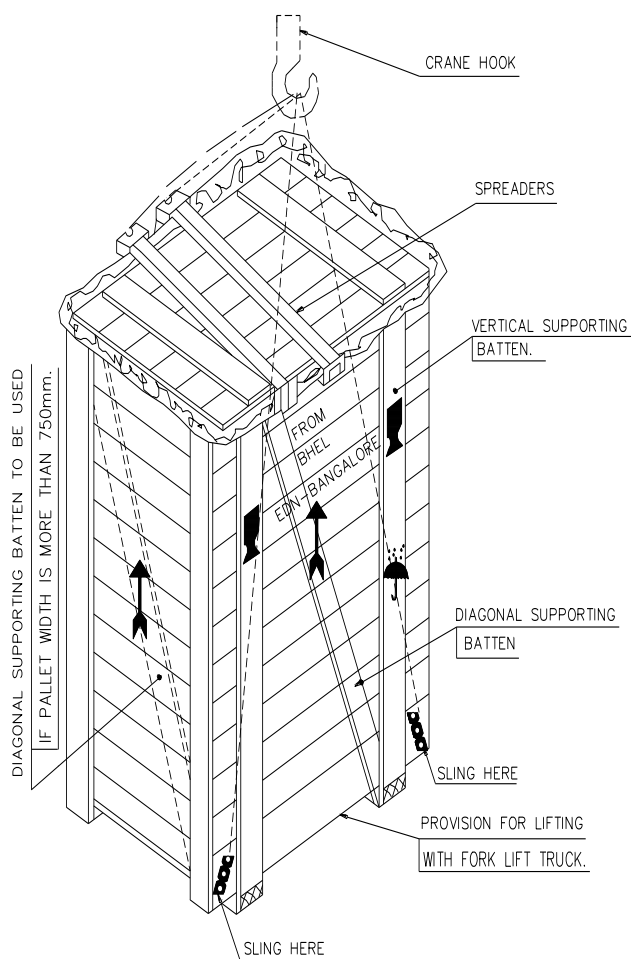


FIG-3 : LIFTING OF PACKED CASE.



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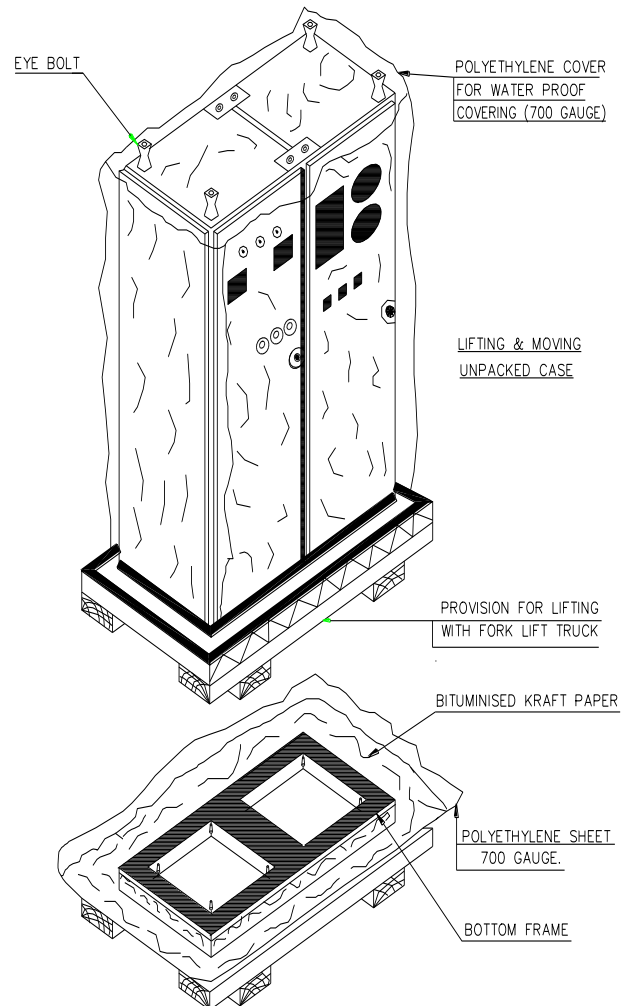


FIGURE-4

बीएच ईएल BHEL A4 - 14	PLANT STANDARD	ED 049 00 99 REV NO 14 PAGE 17 OF 27
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225		170	
भारत भारती	BHEL-EDN-BANGALORE-26		
CONSIGNEE			
MATERIAL			
CUSTOMER REF.		MO. NO.	
DESPATCH ADVICE NOTE NO.		CASE NO.	
DIMENSIONS(MM) LXBXH		NET WT -KGS	GROSS WT -KGS
SPECIAL INSTRUCTIONS	HANDLE WITH CARE - KEEP DRY DO NOT DROP - DO NOT TILT		

FIG-5 : MARKING PLATE.

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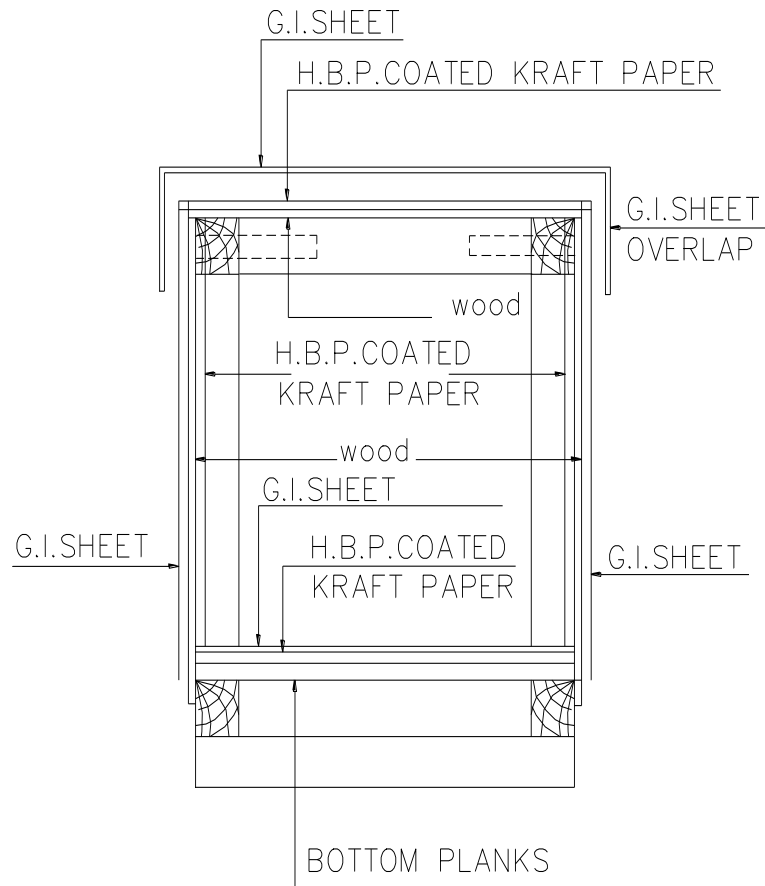


FIG-6 : CLOSED PACKING CASE WITH G.I.SHEET
SHOWING LAYERS OF PACKING MATERIALS.

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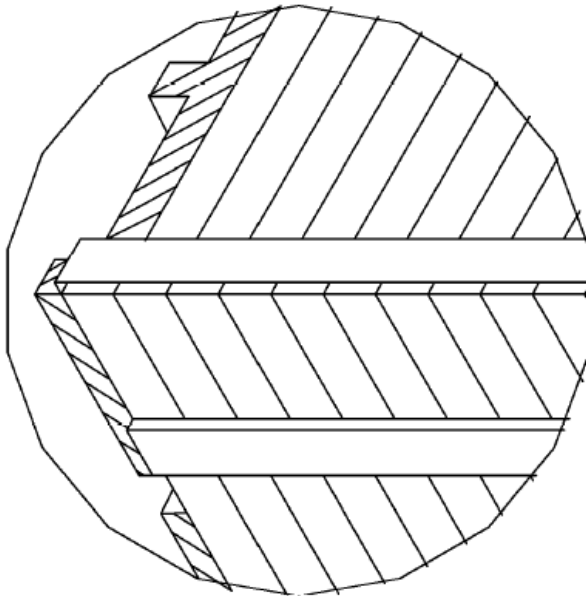
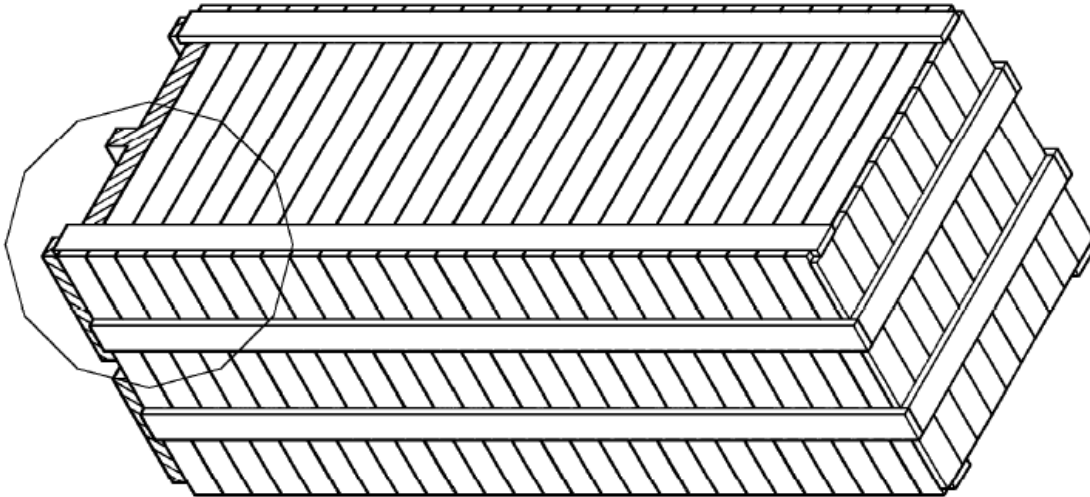


Fig – 8 : Single Suit Cubicle Packing View



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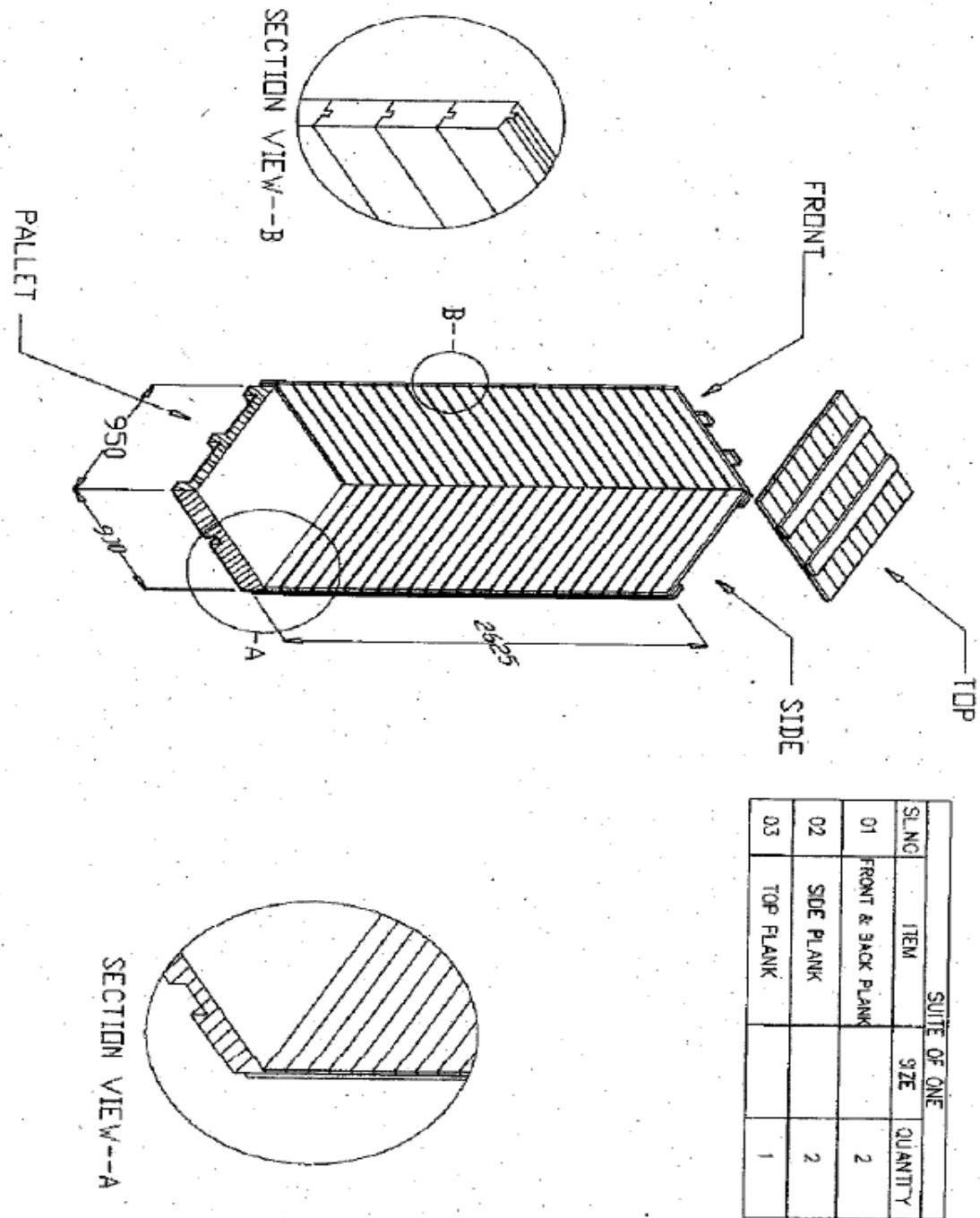


Fig – 9 : Single Suit Packing Assembly Drawing

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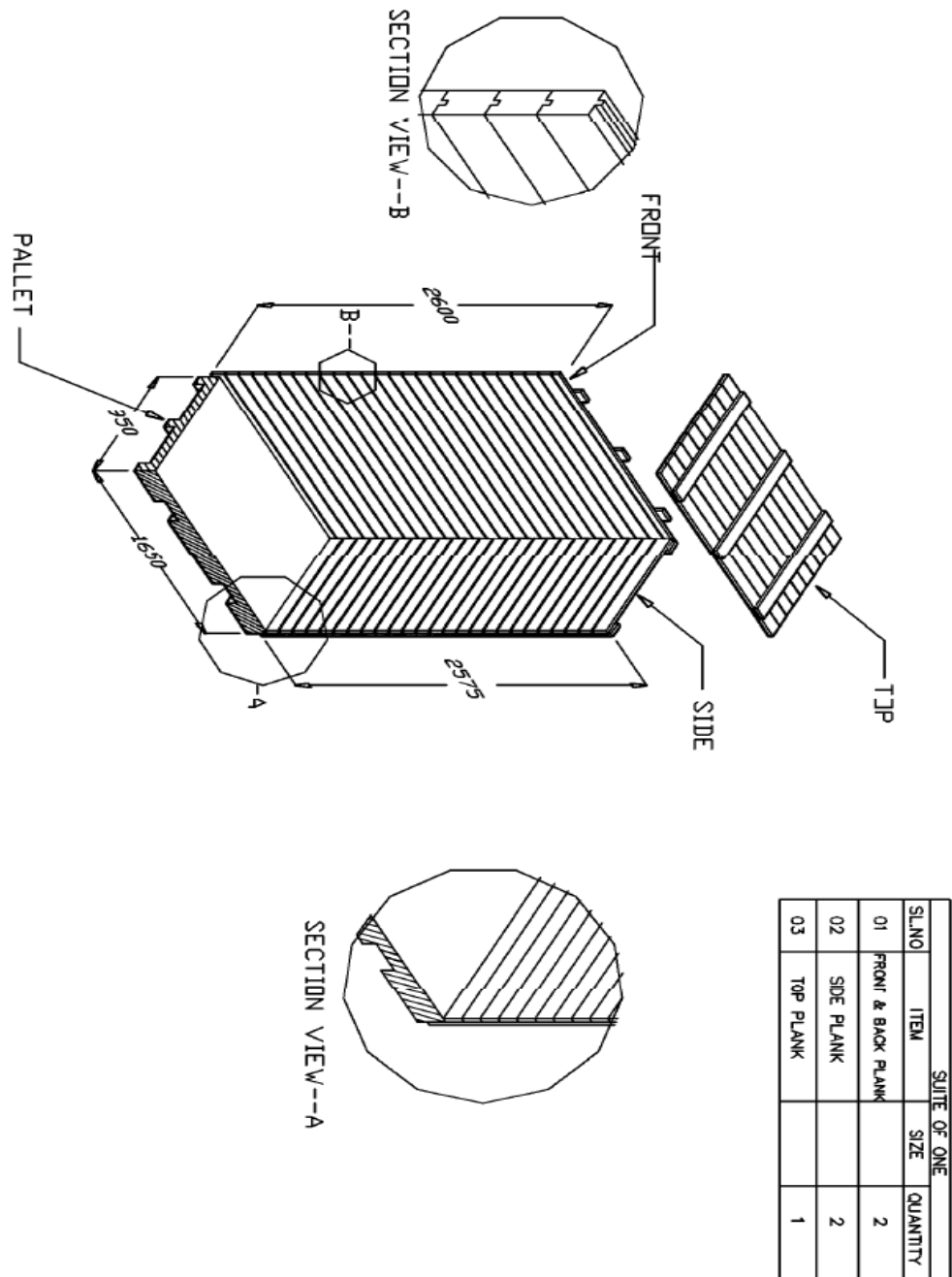


Fig – 10 : Two Suit Packing Assembly Details



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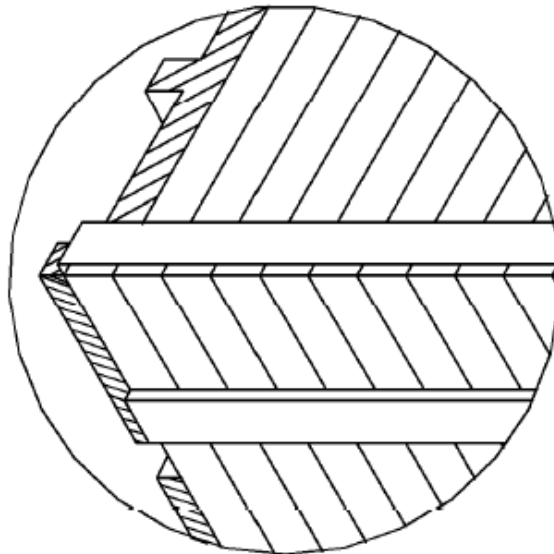
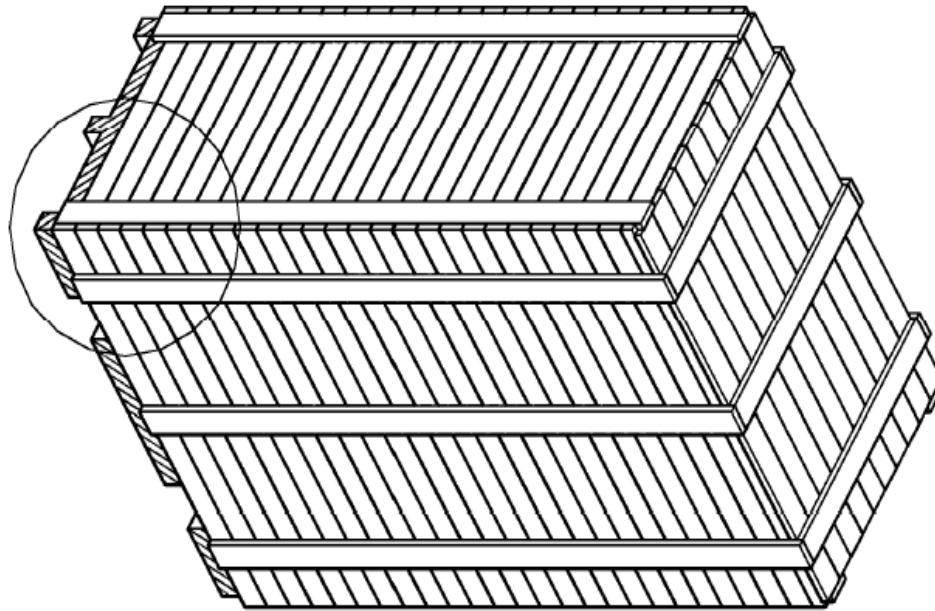


Fig – 11 : Two Suit Panel Packed view

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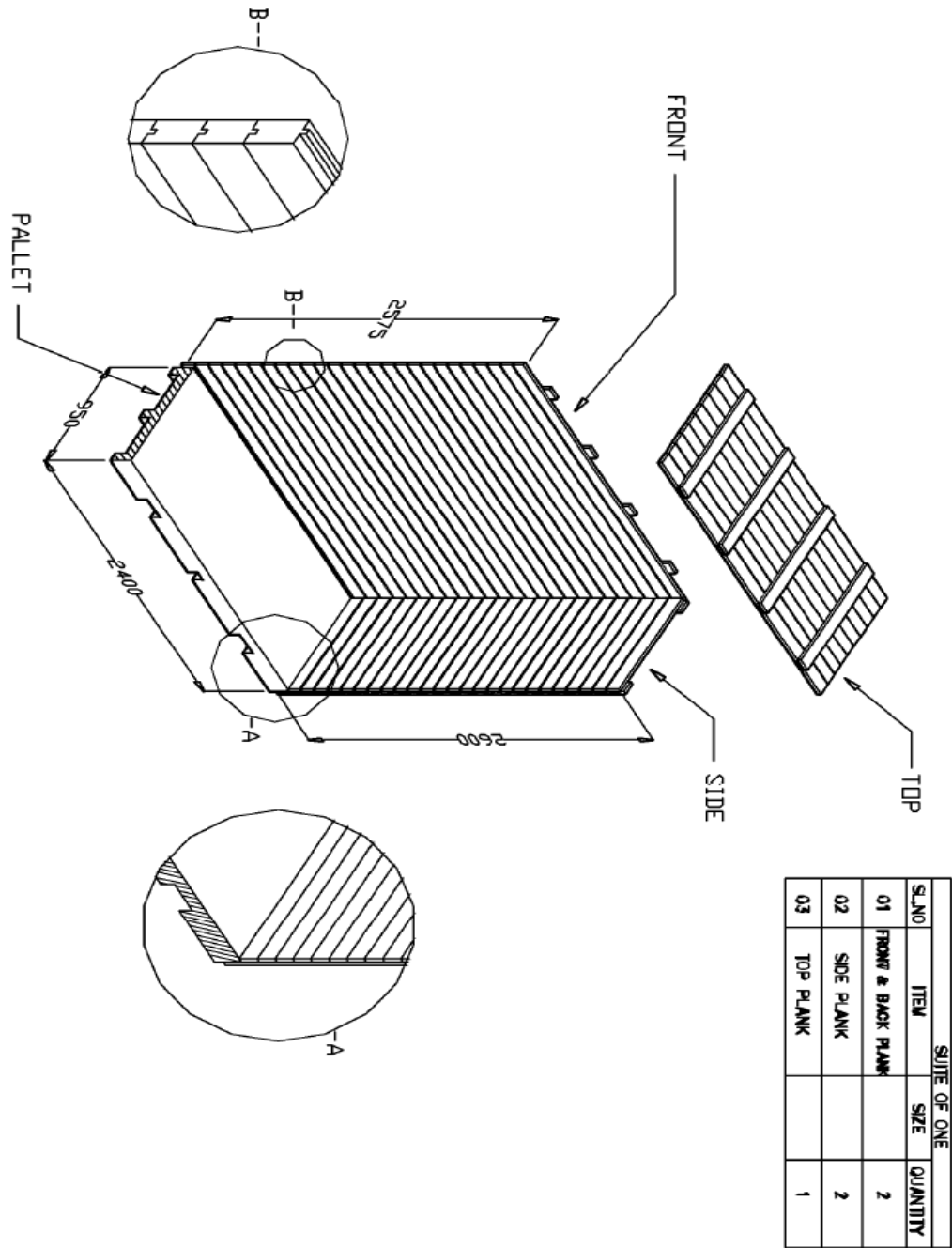


Fig – 12 : Three Suit Panel Packing Assembly View



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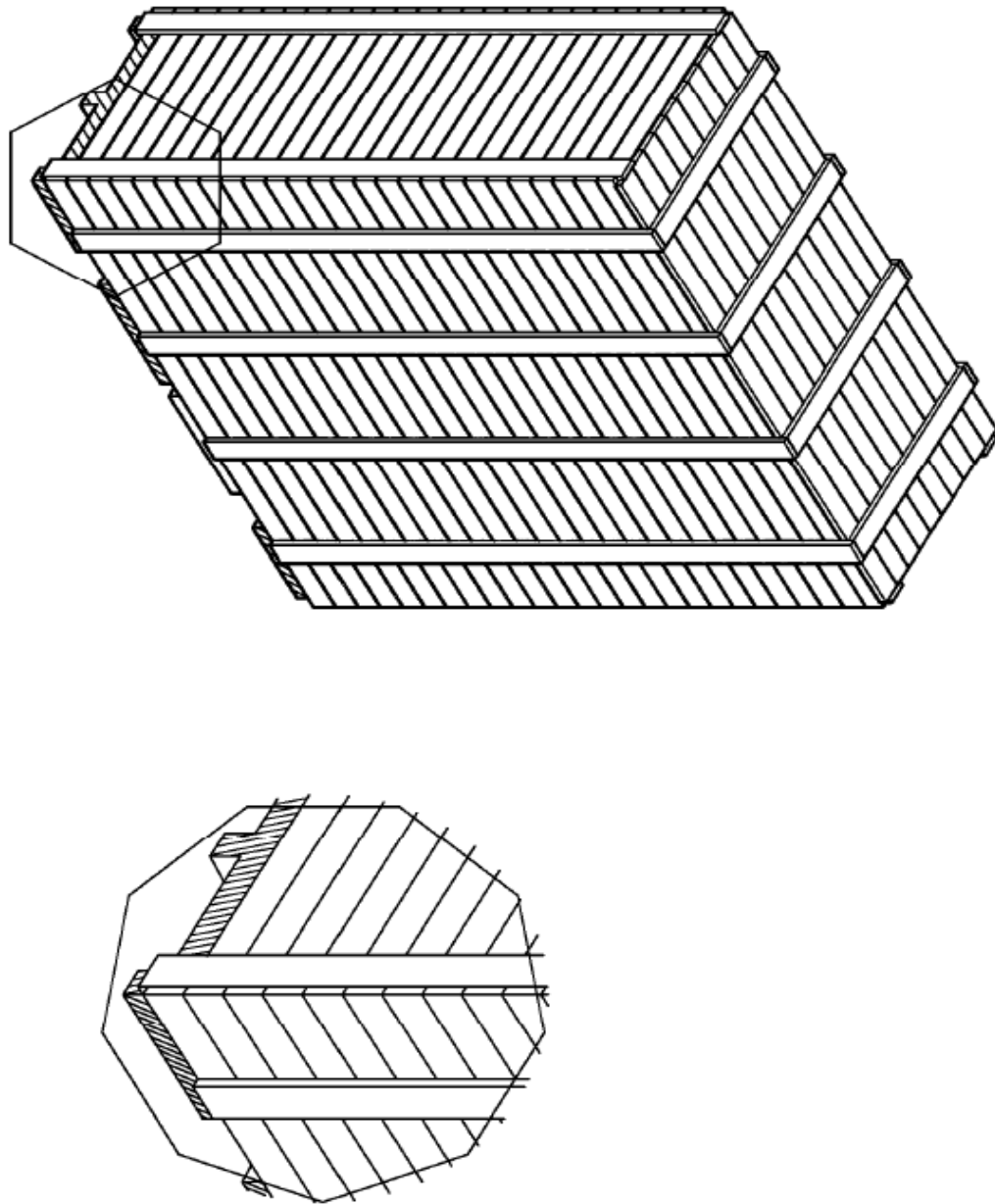


Fig -13 : Three Suit Panel Packed View



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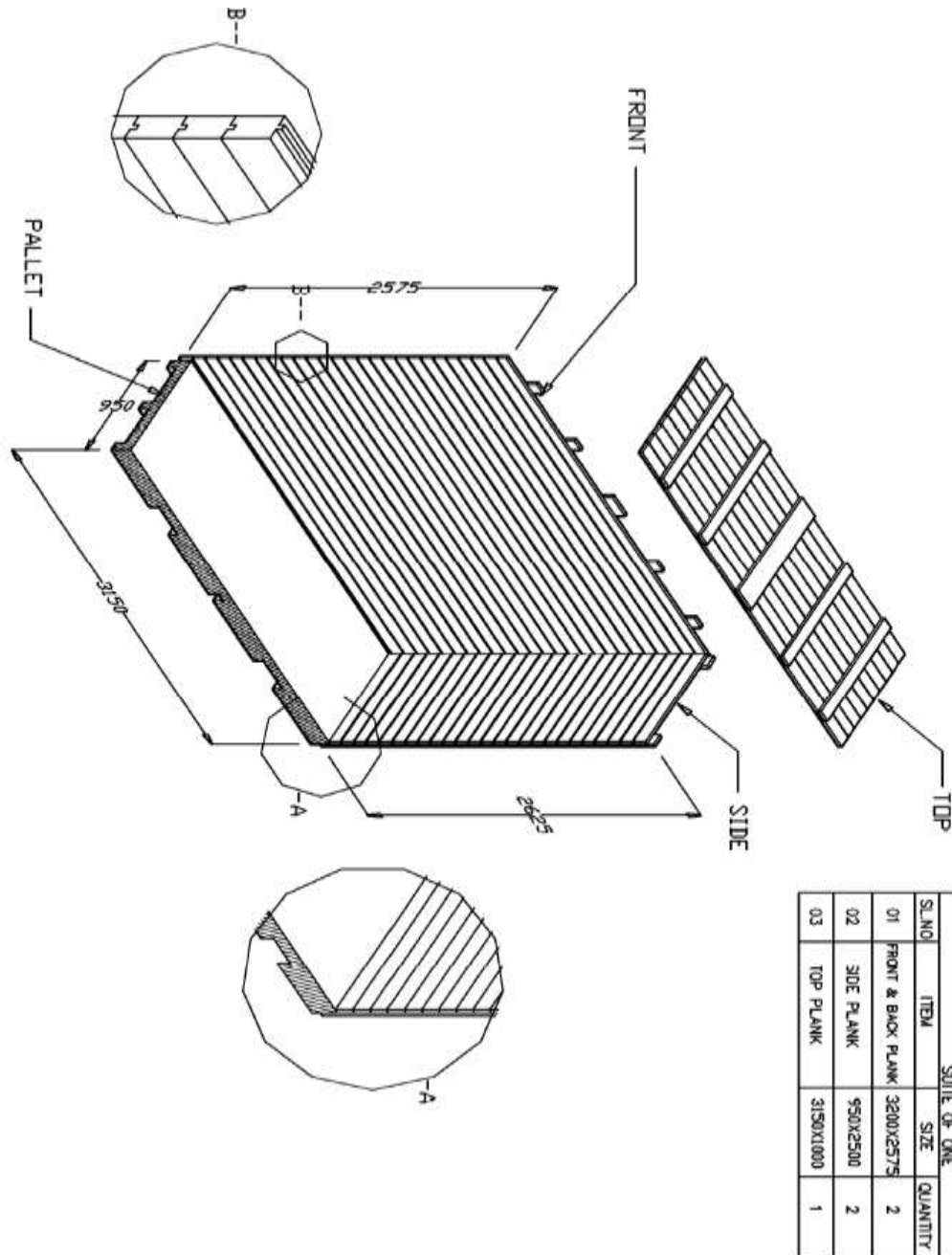


Fig – 14 : Four Suit Panel Packing assembly Detail



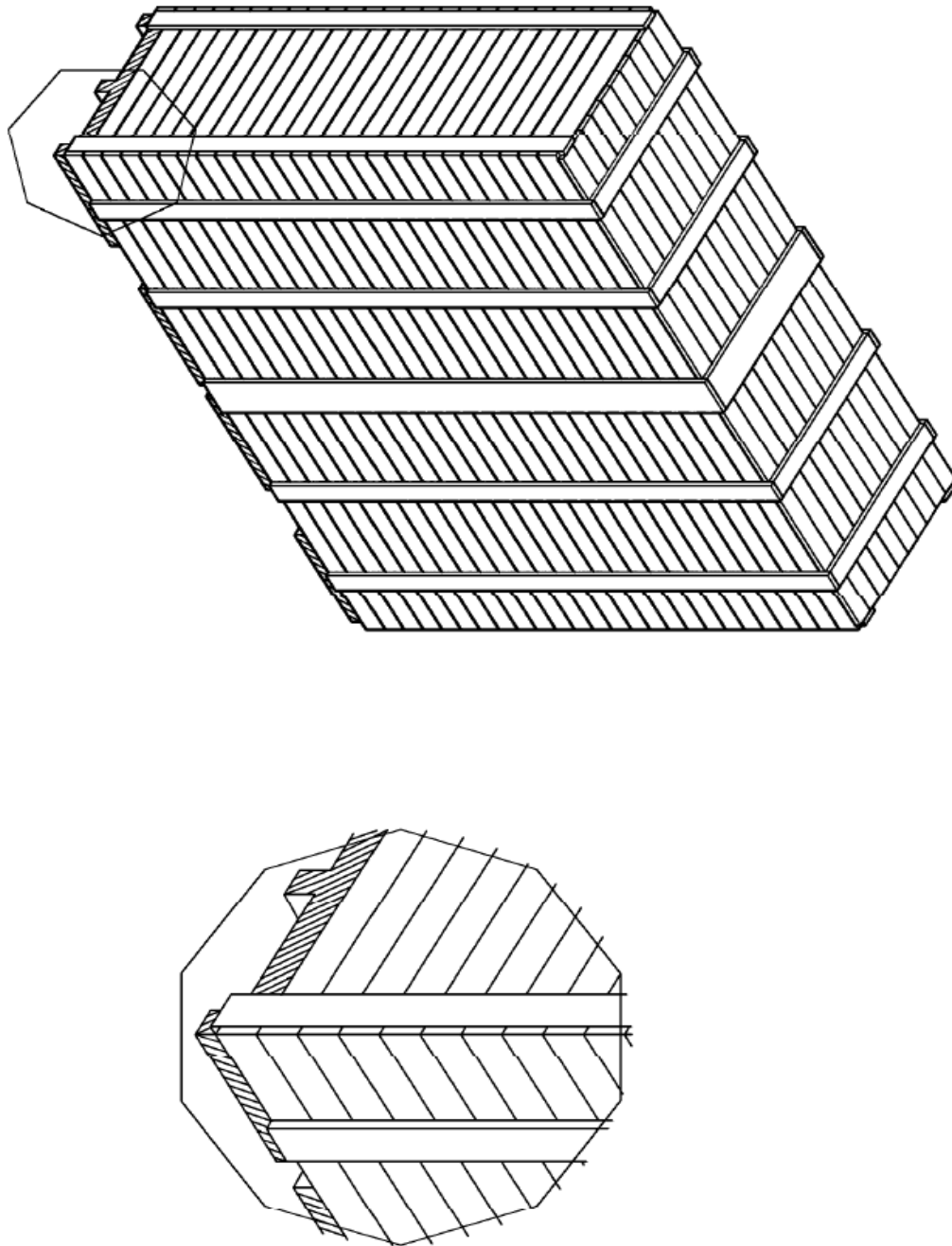
A4 - 14

PLANT STANDARD

ED 049 00 99

REV NO 14

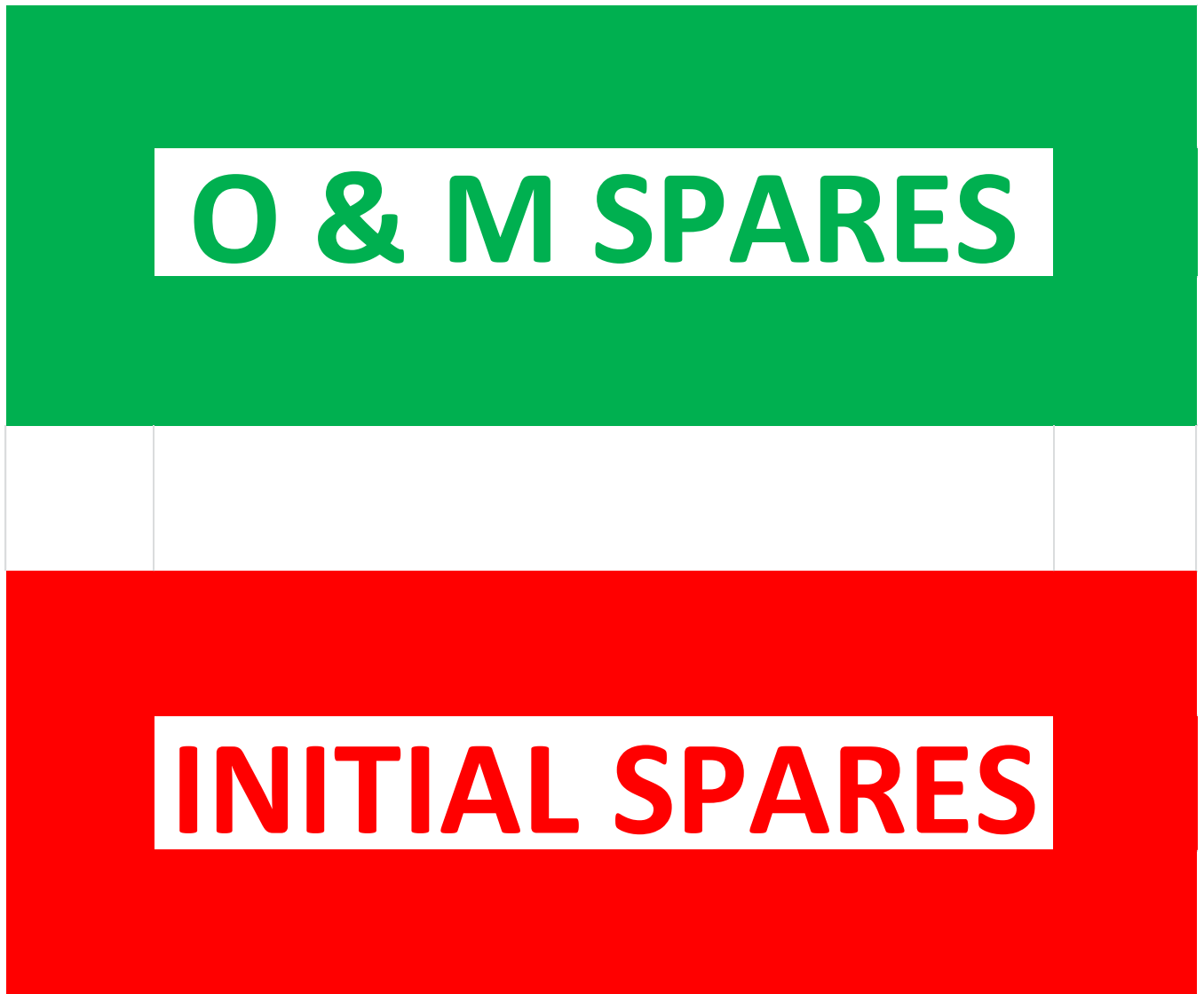
PAGE 27 OF 27

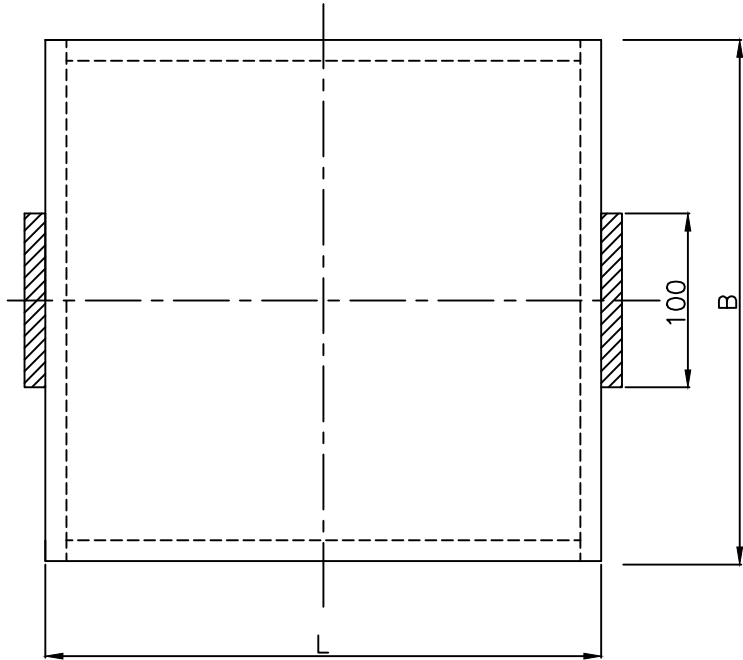
**Fig -15 : Four Suit Panel Packing View**

 A4 - 14	PLANT STANDARD	ED 049 00 99 REV NO 14 PAGE 28 OF 27
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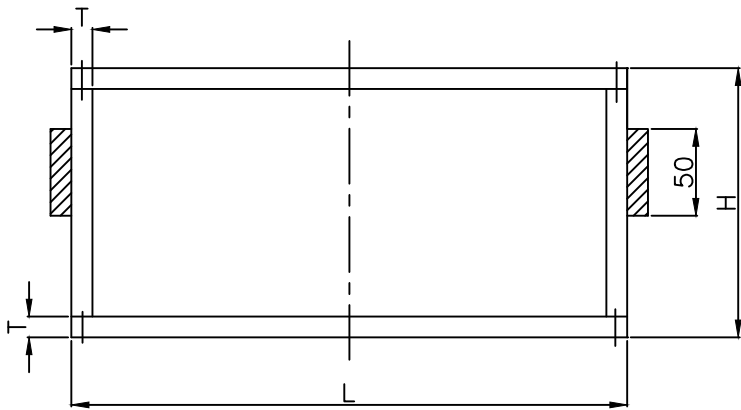
Easy spares [Initial and O&M] Traceability and Identification at units and as well as at sites:

Fig: 16



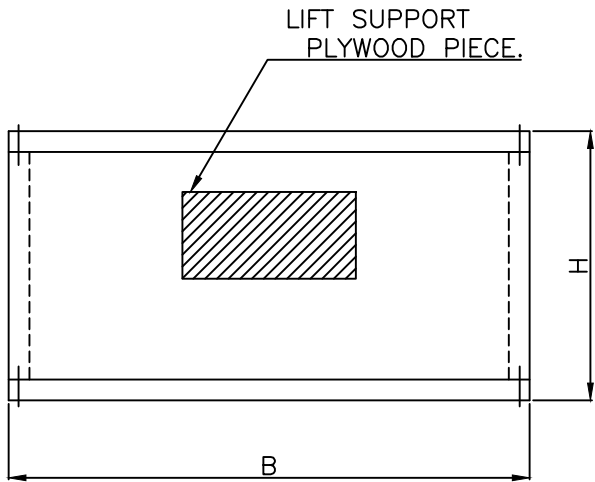


BOTTOM VIEW

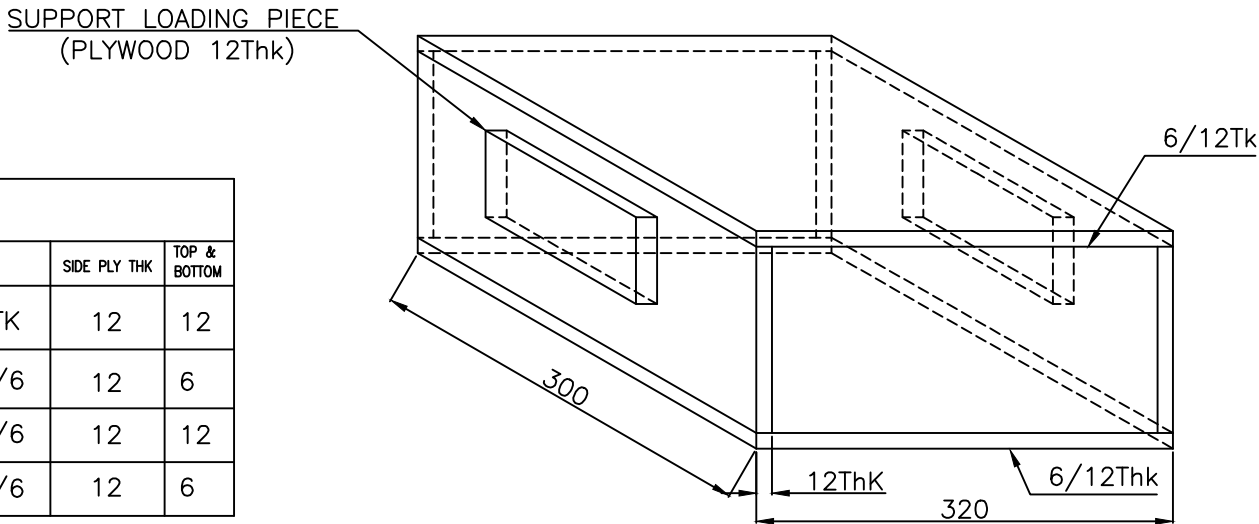


FRONT VIEW

ITEM NO	DIMENSIONS					
	L	B	H	TK	SIDE PLY THK	TOP & BOTTOM
01	320	300	167	12TK	12	12
02	320	300	167	12/6	12	6
03	400	400	200	12/6	12	12
04	500	400	300	12/6	12	6



SIDE VIEW



ISOMETRIC VIEW
FOR REFERENCE ONLY
NOT TO SCALE

NOTE:-

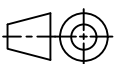
1. DEBURR THE SHARP EDGES.
2. PLYWOOD SHEET 12TK. ALL SIDES OR 12Tk SHEET FOR SIDES AND 6MM Tk CAN ALSO BE USED, FOR BOTH TOP & BOTTOM
3. SUITABLE NAILS TO BE USED. RECOMMENDED SIZE 14Gx1 1/4 INCH LENGTH.
4. SUPPORT PIECE OF PLYWOOD SHEET SIZE :- 100x50x12Tk 2No'S TO BE PROVIDED FOR BIGGER BOXES FOR EASY HANDLING/ LIFTING.
5. ALL OTHER REQUIRED PACKING MATERIALS TO BE USED FOR PACKING.
6. STANDARD LABELINGS, MARKINGS, TO BE DONE, THE INCLUDING PVC STRAPPINGS.

	01	PLYWOOD 12Thk				
QTY.	ITEM No.	DESCRIPTION	DRAWING NO.	ITEM No. VARI ANT	MATERIAL CODE MATERIAL SPECN.	UT.Wt. (kgs) QTY.

CARD TYPE 2

CARD TYPE 1

TYPE OF PRODUCT OR
NAME OF CUSTOMER/PROJECT

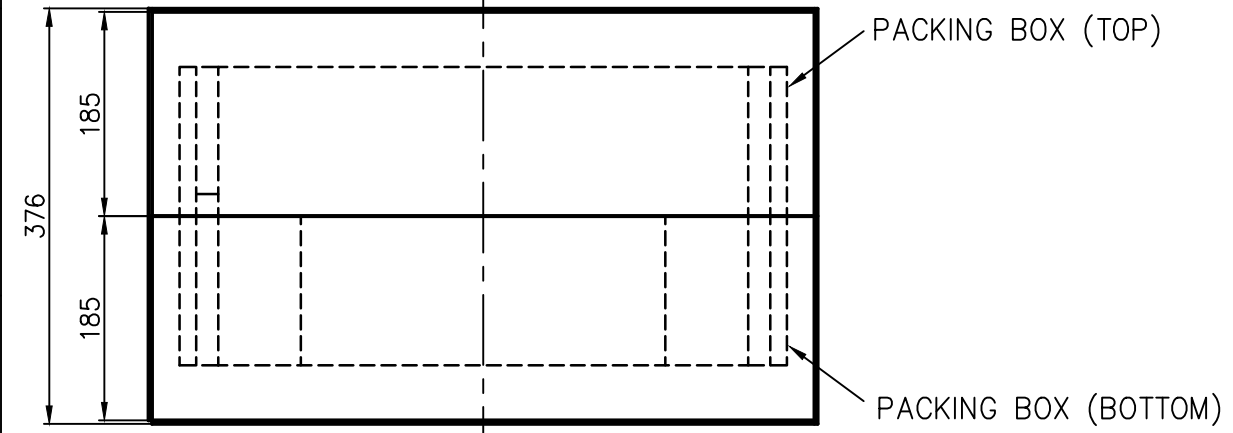
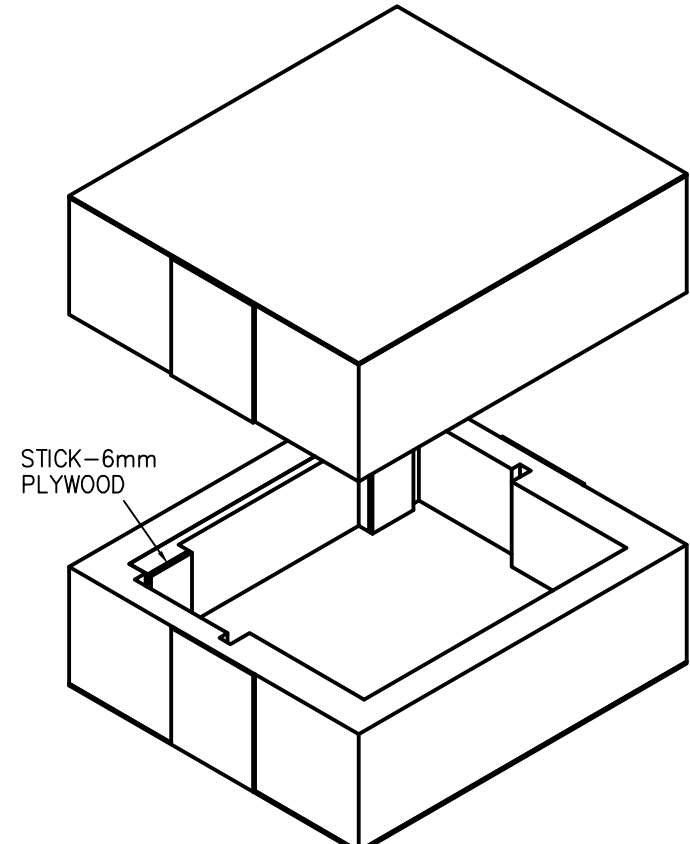
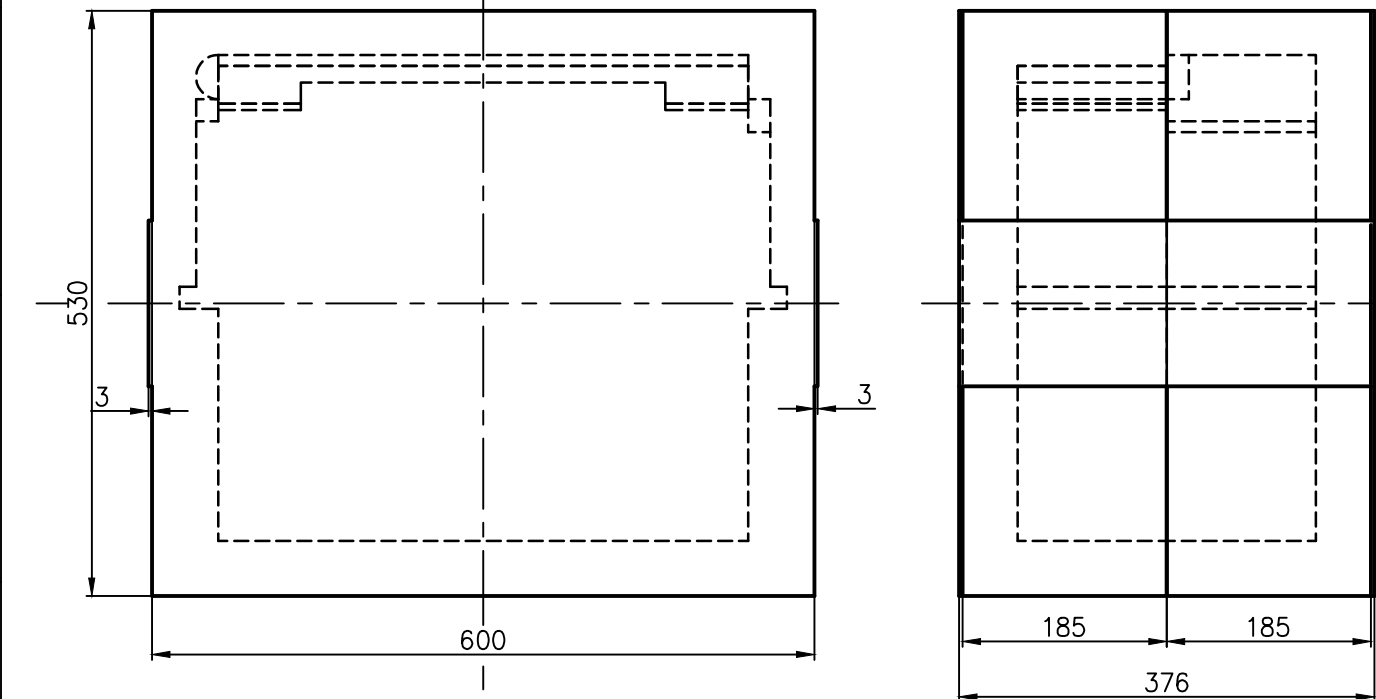
 BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE				DRN	NAME	SIGN.	DATE	No. OF VAR
							18/06/10	
					CKD	NAGARAJUK/KSP	18/06/10	
					APPD	KGR/KSP	18/06/10	
DEPT. SAE	FOR UNSPECIFIED-TOLERANCES REFER ED 0230499		SCALE	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF ITEM	
CODE 406			1: 4					
TITLE					DRAWING NO.			REV. 00
PLYWOOD RPP BOX					805 RPP BOX 001			
					SHEET NO. 01		NO. OF SHEETS 01	

INVENTORY NO.



TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	LEG MODULE-2.3 Kv
--	-------------------

108

	FIRST ANGLE PROJECTION								ALL DIMENSIONS ARE IN mm																																												
			3		4		5		6		7		8																																								
A COPYRIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the Company.	DRAWING NO. 3 688 04 10022																																																				
B																																																					
C	 MATERIAL:-PROFEEL/ARMOUR EXPANDED POLYETHYLENE (EP)FOAM OF 15 & 20 MM THICKNESS. DENSITY:27-35 Kg/CUBIC METER. JOINING OF EP FOAM FITMENTS:BY HOT AIR WELDING METHOD. SHAPE & DIMENSIONS: AS PER DRAWING IN SHT 01 & 02.																																																				
D																																																					
E	<table border="1"><thead><tr><th>QTY.</th><th>ITEM No.</th><th>DESCRIPTION</th><th>DRAWING NO.</th><th>ITEM No.</th><th>VARI ANT</th><th>MATERIAL CODE</th><th>SPECN.</th><th>UT.Wt. (kgs)</th><th>QTY.</th></tr></thead><tbody><tr><td colspan="10">CARD TYPE 2 ← → CARD TYPE 1</td></tr></tbody></table>														QTY.	ITEM No.	DESCRIPTION	DRAWING NO.	ITEM No.	VARI ANT	MATERIAL CODE	SPECN.	UT.Wt. (kgs)	QTY.	CARD TYPE 2 ← → CARD TYPE 1																												
QTY.	ITEM No.	DESCRIPTION	DRAWING NO.	ITEM No.	VARI ANT	MATERIAL CODE	SPECN.	UT.Wt. (kgs)	QTY.																																												
CARD TYPE 2 ← → CARD TYPE 1																																																					
F	<table border="1"><thead><tr><th colspan="4">TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT</th><th colspan="10">LEG MODULE-2.3 Kv</th></tr><tr><th>DEPT.</th><th>SAE</th><th>FOR UNSPECIFIED-TOLERANCES REFER ED 0230499</th><th>SCALE NTS</th><th>WEIGHT(Kg)</th><th>REF. TO ASSY. DRG.</th><th>ITEM NO.</th><th>No. OF VAR</th></tr></thead><tbody><tr><td rowspan="3">BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE</td><td>DRN</td><td>G.MARUTHI</td><td></td><td>27.03.2001</td><td rowspan="3"></td><td rowspan="3"></td><td rowspan="3"></td></tr><tr><td>CKD</td><td>K.S.PRABHAKAR</td><td></td><td>27.03.2001</td></tr><tr><td>APPD</td><td>SHS RAO</td><td></td><td>27.03.2001</td></tr></tbody></table>														TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT				LEG MODULE-2.3 Kv										DEPT.	SAE	FOR UNSPECIFIED-TOLERANCES REFER ED 0230499	SCALE NTS	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF VAR	BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE	DRN	G.MARUTHI		27.03.2001				CKD	K.S.PRABHAKAR		27.03.2001	APPD	SHS RAO		27.03.2001	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT				LEG MODULE-2.3 Kv																																																	
DEPT.	SAE	FOR UNSPECIFIED-TOLERANCES REFER ED 0230499	SCALE NTS	WEIGHT(Kg)	REF. TO ASSY. DRG.	ITEM NO.	No. OF VAR																																														
BHARAT HEAVY ELECTRICALS LIMITED. ELECTRONICS DIVISION, BANGALORE	DRN	G.MARUTHI		27.03.2001																																																	
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	APPD	SHS RAO		27.03.2001																																																	
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REV.	DATE	ALTERED CHECKED APPROVED	REV.	DATE	ALTERED CHECKED APPROVED	REV.	DATE	ALTERED CHECKED APPROVED	NAGARAJUK S SAM KS PRABHA KAR																																												
						02	24.02.17																																														
									SHT 03 ADDED.																																												
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Packing BOX ASSY	3 688 04 10022	02																																																			
SHEET NO. 03		NO. OF SHEETS 03																																																			

FORM No. A3-01 109 A3 SIZE

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INVENTORY NO.		SIGN & DATE		REF. DRG.NO.					
ON GINWARD									
INSIDE VIEW OF THE BOX									
FOAM (20mm), BOTH SIDES									
TOP VIEW OF OPEN BOX									
REFERENCE VIEW									
NOTE:-									
1) MATERIAL: 3 PLY, B-FLUTE CORRUGATED SHEET WITH OUTER BROWN COLOUR AS PER SHADE No. 410 OF IS:5.									
2) BURSTING STRENGTH OF 'B' FLUTE 14kg/cm ² MIN, GSM-700.									
3) PE FOAM: UNLESS SPECIFIED, 10mm TK PE FOAM AS SHOWN IN FIG.(INSIDE VIEW),									
4) BHEL MONOGRAM : AA 040 11 21.									
5) ALL TEXT SHOULD BE AS SHOWN IN OUTER VIEW, BLUE/BLACK IN COLOUR & BOLD.									
6) MATERIAL COMPLIANCE CERTIFICATE SHALL BE SUBMITTED ALONG WITH BULK SUPPLY.									
*7) DIMENSIONS MEASURED IS FROM FOAM TO FOAM. LxWxH IS THE MIN VOLUME REQUIRED INSIDE THE CLOSED BOX									
DIMENSIONS									
IT NO									
L (inside)									
W (inside)									
H (inside)									
01 150 130 60									
02 180 130 60									
03 200 150 80									
OUTSIDE VIEW OF THE BOX/ SCREEN PRINTING DETAILS									
REV. DATE									
CHECKED									
APPROVED									
REV. DATE									
CHECKED									
APPROVED									
REV. DATE									
CHECKED									
APPROVED									
TITLE									
PACKING BOX-SHIPING (MISC)									
DRAWING NO.									
805-SHIP-01									
SHEET NO. 01									
NO. OF SHEETS 01									
REV. 00									
DEPT.									
FOR UNSPECIFIED-TOLERANCES									
REFER ED 0230499									
SCALE									
WEIGHT(Kg)									
REF. TO ASSY. DRG.									
ITEM NO.									
No. 01									
VAR									
DRN									
NAME									
SIGN.									
DATE									
No. 01									
OKD									
APPD									
Bharat Heavy Electricals Limited.									
Electronics Division, Bangalore									
Type of Product or Name of Customer/Project									
CARD TYPE 2									
CARD TYPE 1									
QTY. ITEM									
No.									
DESCRIPTION									
DRAWING NO.									
ITEM No.									
MATERIAL CODE									
VARI ANT									
MATERIAL SPECN.									
QTY.									
UT.Wt. (kgs)									
110									